

EXHIBIT B

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IN RE GOOGLE ADVERTISING ANTITRUST
LITIGATION

Case No. 1:21-md-03010 (PKC)

AMENDED COMPLAINT FOR
DAMAGES AND INJUNCTIVE RELIEF
JURY TRIAL DEMANDED

This Document Relates To:

ASSOCIATED NEWSPAPERS LTD. and
MAIL MEDIA, INC.

Plaintiffs,

-against-

GOOGLE LLC and ALPHABET INC.,

Defendants.

~~CIVIL ACTION NO.~~

Case No. 1:21-cv-03446 (PKC)

~~COMPLAINT FOR DAMAGES AND
INJUNCTIVE RELIEF~~

~~JURY TRIAL DEMANDED~~

INTRODUCTION

1. Plaintiffs publish the online newspaper MailOnline, which is branded in the United States as “Daily Mail.” Daily Mail began as a printed newspaper in London ~~125~~126 years ago, in 1896. Daily Mail introduced an online version of its newspaper in 2003, and opened its U.S. headquarters in New York City in 2011. That same year, Daily Mail overtook *The New York Times* as the world’s most popular English-language newspaper website.

2. Daily Mail reaches over 225 million unique monthly visitors, with 75 million of those visitors coming from the United States. Daily Mail publishes hundreds of stories daily, using its home page to deliver the breaking news, politics, health, entertainment, and celebrity content people want to read.

3. Like most other news sites, Daily Mail does not charge readers for its online content. The costs of employing reporters, editors, photographers, video journalists, and running the website are paid for by selling advertising space alongside news articles.

4. Daily Mail's ad-supported business model is overwhelmingly popular with U.S. readers. Eighty percent of Americans do not pay for access to news, and one recent consumer survey reports that over 84% of Americans want an "ad-supported internet where content is free."

5. Online advertising continues to grow overall as users consume more internet content, yet newspapers' advertising revenue has declined by 70% over the last decade. As a result, since 2008, newsroom employment has dropped by more than half, 20% of all newspapers have closed, and half of all U.S. counties now have only one newspaper, usually a weekly edition. The circulation of daily newspapers has decreased by more than 40%.

6. News publishers do not see the growing ad spending because Google and its parent Alphabet unlawfully have acquired and maintain monopolies for the tools that publishers and advertisers use to buy and sell online ad space. Those tools include the software publishers use to sell their ad inventory, and the dominant exchange where millions of ad impressions are sold in auctions every day. Google controls the "shelf space" on publishers' pages where ads appear, and it exploits that control to defeat competition for that ad space. Among other tactics, Google makes it difficult for publishers to compare prices among exchanges; reduces the number of exchanges that can submit bids; and uses bids offered by rival exchanges to set its own bids — a *de facto* bid rigging scheme. Further, for years, Google has used its search rankings to punish publishers that do not submit to its practices. The lack of competition for publishers' inventory

depresses prices and reduces the amount and quality of news available to readers, but Google ends up ahead because it controls a growing share of the ad space that remains.

7. A series of decisions in this Court have found antitrust liability for manipulating securities markets much like Google has done here. *See, e.g., Iowa Pub. Emps. ' Ret. Sys. v. Merrill Lynch, Pierce, Fenner & Smith Inc.*, 340 F. Supp. 3d 285 (S.D.N.Y. 2018); *In re Credit Default Swaps Antitrust Litig.*, 2014 WL 4379112 (S.D.N.Y. Sept. 4, 2014). These cases shared the same set of facts: dominant broker-dealers depressed prices by forbidding traders to compare offers in real time, eliminating rival platforms that introduced competition, and trading on inside information. This Court already understands conduct like Google's and can provide a remedy.

8. Google has acknowledged that much of its conduct occurred in this District, *see Texas v. Google*, 20-cv-00957 (E.D. Tex. Jan. 19, 2021), ECF No. 28, at 4-5, and that the largest share of its witnesses is located in this District, *see* Tr. at 49-50 (E.D. Tex. Mar. 18, 2021). Likewise, many of the ad-tech companies that Google acquired (including DoubleClick), as well as many of the rivals that Google has eliminated, were based in this District. Finally, New York City is the center of the United States' publishing and advertising industries. America's largest news and entertainment companies are based in New York City, as are more than 1,200 ad agencies. This Court has a predominating local interest in restoring competition in industries critical to New York's economic health and the vitality of the publishing business. This District is a "major jurisdiction" for addressing Google's economic censorship. *Cf. Harry Kalven, Jr., A Worthy Tradition: Freedom of Speech in America* 75 (1988).

9. Competition enforcers throughout the world have condemned Google's unlawful monopolization. The U.K. Competition and Markets Authority identified Google's misconduct and the harm to publishers, but concluded it had insufficient injunctive authority to implement a

remedy. *See Online Platforms and Digital Advertising Market Study Final Report* at 20, 60, 394-406 (July 1, 2020) (“Google’s strong position at each level of the intermediation value chain creates clear conflicts of interest, as it has the ability and incentive to exploit its position on both sides of a transaction to favour its own sources of supply and demand.”). The Australian Competition and Consumer Commission identified Google’s misconduct and the harm to publishers, and is prescribing compensation and a code of conduct to remedy some of Google’s practices. *See Digital Advertising Services Inquiry Interim Report* (Dec. 2020). The U.S. House Antitrust Subcommittee studied the conduct of Google and other platforms, collecting 1.3 million documents and holding seven hearings. The House Subcommittee found that Google is harming “the free and diverse press” and endangering “political and economic liberty.” *Final Report and Recommendations, Investigation of Competition in Digital Markets*, at 57-77, 206-11 (Apr. 15, 2021). In December 2020, a group of State Attorneys General filed suit against Google alleging monopolization and misrepresentations similar to those described in this Complaint. *See Texas v. Google LLC*, 20-cv-00957 (E.D. Tex. Complaint filed Dec. 16, 2020, [Third Amended Complaint filed Mar. 15 Nov. 12](#), 2021). The United States and a group of State Attorneys General filed suit against Google for monopolizing search advertising in October 2020, *see United States v. Google LLC*, 1:20-cv-03010 (D.D.C. Complaint filed Oct. 10, 2020), and the U.S. Department of Justice is continuing to investigate Google’s monopolization of the display advertising markets at issue in this case. The leadership of both the Senate and House Antitrust Subcommittees have introduced bills that, among other things, would [break Google’s unlawfully acquired dominance over several advertising technology markets and](#) provide additional resources to antitrust enforcers to address Google’s conduct.

10. Daily Mail brings this antitrust action for compensation and for injunctive relief to restore competition in the monopolized markets and safeguard news content for readers.

PARTIES

11. Plaintiff Associated Newspapers Ltd. (“ANL”) is a British multinational media company registered in England and Wales and headquartered in London. ANL owns and operates the *Daily Mail* and *The Mail on Sunday* newspapers, MailOnline (dailymail.co.uk and dailymail.com), and several other publications. MailOnline is the world’s most read English-language ~~newsnewspaper~~ site and, branded as “Daily Mail,” the fifth most popular U.S. news website. ANL is a wholly owned subsidiary of Daily Mail and General Trust plc (“DMGT”), ~~a company listed on the London Stock Exchange that manages a portfolio of companies in the consumer media, insurance risk, property information, and events and exhibitions sectors.”~~

12. Plaintiff Mail Media, Inc. (“Mail Media”) is a wholly owned subsidiary of DMGT that manages ANL’s U.S.-based operations for MailOnline. Mail Media is a privately held company incorporated and existing under the laws of the State of Delaware, with its headquarters in New York, New York. On behalf of ANL, Mail Media employs hundreds of reporters and editors, as well as ad-tech, operations, and ad-sales teams, in the United States. This Complaint refers to ANL and Mail Media together as “Daily Mail.”

13. Defendant Google LLC (“Google”) is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business in Mountain View, California. Google is an online advertising company providing internet-related products, including various online advertising technologies, directly and through subsidiaries and business units it owns and controls. Google maintains an office in this District at 111 8th Avenue, New York, New York 10011.

14. Defendant Alphabet Inc. (“Alphabet”) is a publicly traded company incorporated and existing under the laws of the State of Delaware and headquartered in Mountain View, California. Alphabet was created as a holding company for Google in late 2015, and Alphabet controls Google’s day-to-day operations. Virtually all of Alphabet’s revenue comes from Google. Since December 2019, Alphabet and Google have had the same Chief Executive Officer. As a result of Alphabet’s operational control, Google is Alphabet’s alter ego. This Complaint refers to Google and Alphabet together as “Google.”

JURISDICTION AND VENUE

15. This action arises under ~~Section~~ Sections 1 and 2 of the Sherman Act, 15 U.S.C. ~~§§ 1–2~~, and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 and 26. The Court has subject-matter jurisdiction under 15 U.S.C. § 4, and 28 U.S.C. §§ 1331 and 1337(a).

16. In addition to pleading violations of federal antitrust law, Daily Mail alleges violations of state law and seeks relief thereunder. All claims under federal and state law are based upon a common nucleus of operative facts, and the entire action commenced by this Complaint constitutes a single case that ordinarily would be tried in one judicial proceeding. This Court therefore has jurisdiction over the state-law claims under 28 U.S.C. § 1367(a). Exercising jurisdiction over the state-law claims will avoid unnecessary duplication of actions and supports the interests of judicial economy, convenience, and fairness.

17. The Court may exercise personal jurisdiction over Google because Google does extensive business within this District — including by providing the monopolized products in this District to Daily Mail — and this action arises out of Google’s contacts within this District.

18. Venue is proper in this District under Sections 4 and 12 of the Clayton Act, 15 U.S.C. §§ 15 and 22, and 28 U.S.C. § 1391, because a substantial part of the events or omissions giving rise to Daily Mail’s claims occurred in this District, and because Google transacts

business and is found within and resides in this District. Daily Mail’s U.S. operations are headquartered in this District; Google has admitted that its conduct occurred in this District; and third party witnesses, including major news publishers, advertisers, and many of Google’s rivals, are or were located in this District. At a hearing on March 18, 2021, in *Texas v. Google*, counsel for Google stated that more of its relevant witnesses are located in New York than in California.

19. Google’s conduct affects interstate trade and commerce.

20. Google’s conduct has a direct, substantial, and reasonably foreseeable effect on commerce within the United States, which in turn causes injury not only to Daily Mail’s United States operations, but to its foreign operations as well.

FACTUAL ALLEGATIONS

I. BACKGROUND

A. The Sale of Online Display Advertising

20-21. Today, 86% of Americans consume news content over the internet. Moving the news online is a boon for news publishers and readers alike. The internet opens up new forms of content — *e.g.*, infographics, videos, photo essays — that publishers can deliver almost instantaneously to readers. No longer must readers wait for the next day’s paper to get the news. And the news they get is more engaging and impactful.

21-22. The growth of internet-based content over the last two decades also has created new advertising opportunities for online publications like Daily Mail. Rather than the static print ads of the twentieth century, these publishers present what are known as “display ads” to their readers — image, text, and video-based ads that appear on the reader’s screen alongside the publisher’s content.

22-23. For ad-supported publications like Daily Mail that do not charge for subscriptions, selling space for display ads on the publisher’s webpage (called the publisher’s “ad inventory”)

is the publisher's dominant source of revenue. Daily Mail generates more than 80% of its revenue from display ads sold on its online pages.

23-24. Generally speaking, publishers sell their ad space through two sales channels: the "direct" and "indirect" channels. Direct sales are negotiated between the publisher and advertisers, including advertising campaigns sold by the publisher's internal sales staff. Indirect sales occur through electronic trading venues called "ad exchanges." Through these exchanges, publishers auction off their ad space to the highest bidder. Because negotiating direct deals can be costly, Daily Mail sells 99% of its U.S. ad inventory through indirect sales. Even in the United Kingdom, where Daily Mail has a 126-year history, direct deals account for only 30% of overall advertising revenue.

24-25. Using either the direct or indirect sales channel, publishers like Daily Mail sell their ad space to advertisers on a reader-by-reader and "impression-by-impression" basis. As the reader loads a Daily Mail webpage, Daily Mail first checks to see whether there is a directly negotiated advertisement to fill the ad space on the page. If there is no direct deal, Daily Mail activates its indirect channel to auction off the ad space to an advertiser. Daily Mail chooses the winning ad and loads it onto the webpage, all before the page finishes loading on the browser. The process of auctioning off inventory and loading the ad takes less than half a second.

25-26. This process is repeated for *each* reader and *each* page the reader visits on the Daily Mail website. That allows advertisers to target their ads to the particular reader, depending on the data available about that individual. Further, every page has several slots (each of which is called an "impression") where publishers can serve an ad. Daily Mail has millions of readers and therefore fills many millions of impressions every day.

B. Ad-Tech Products

27. To facilitate the sale of these impressions, all within milliseconds, publishers and advertisers use a chain of specialized and distinct products.

28. A large publisher like Daily Mail uses a “publisher ad server” to organize and sell its ad inventory: on all platforms: desktop, mobile web, and mobile applications. When a user visits a webpage through any of these channels, the publisher ad server accesses the reader’s anonymized user ID either from a “cookie” stored on the user’s browser or from an identifier stored on the user’s mobile device. The ad server then checks whether a direct deal is available to serve the impression(s) on the reader’s specific webpage.

29. If no direct deal is available, the ad server calls “ad exchanges” to organize auctions for each impression. As part of the bid request to an exchange, the ad server communicates the reader’s anonymized user ID.

30. Once called, each exchange requests participating “demand-side platforms” (“DSPs”) to place bids on behalf of their advertisers. A DSP is automated ad-buying software that advertisers use to buy display ad inventory. As part of the request to the DSPs, the exchange passes the anonymized user ID, and the DSPs cross-reference that ID with various databases to ascertain whether the reader is a good candidate for a particular ad. The DSPs, based on advertiser demand and the available user information, then enter bids for the impression.

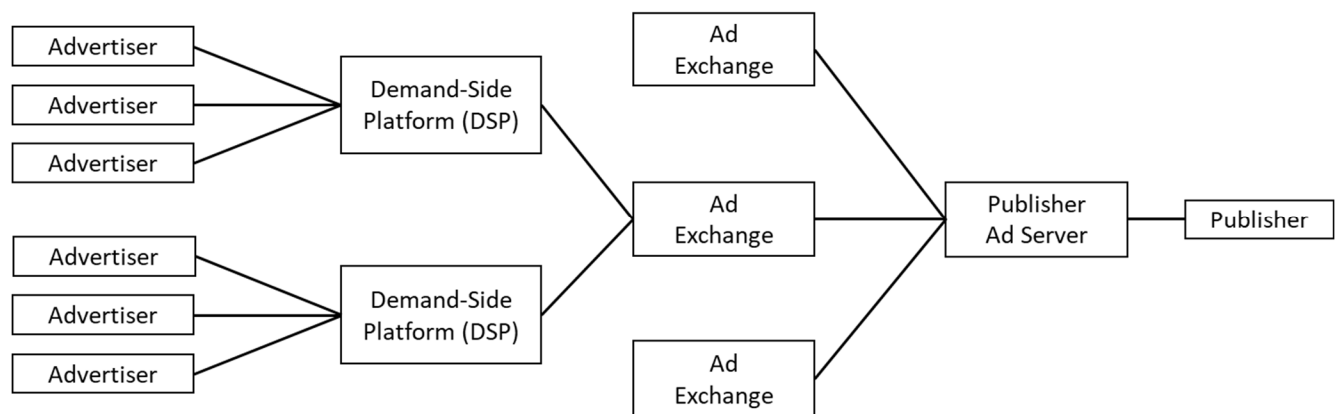
31. Each exchange collects the available bids, picks a winning DSP, and submits the winning bid to the publisher ad server. Because bids typically are presented as “Cost-Per-Mille” (“CPM”), or the price for one thousand *impressions*, publishers make money when ads are loaded on their pages rather than when users click on them.

32. Finally, the ad server decides which exchange’s bid to accept. If the ad server rejects all bids, it can place a “house ad” — *e.g.*, an ad from Daily Mail advertising its own brand — to fill the impression.

33. Each ad-tech product exacts a fee for its services. The ad server charges the publisher monthly depending on the volume of impressions served. Exchanges, meanwhile, charge the publisher a set percentage (called a “revenue share”) of each impression’s sale price. To account for that revenue share, exchanges submit bids to the publisher ad server on a “net” basis, *i.e.*, the winning bid submitted by its DSPs less the revenue share. Finally, DSPs charge their advertisers a fee for their various services — including identifying relevant users and then assessing whether the ads shown were effective.

34. The below graphic depicts the relevant ad-tech products, with buyers (*i.e.*, advertisers) on the left and sellers (*i.e.*, publishers) on the right.

Figure 1: Ad-Tech Products



35. Google is the dominant player for each of these ad-tech products, and thus controls the buying and selling of display ad inventory across most of the internet. Google’s publisher ad server — “DoubleClick for Publishers” (“DFP”) — controls more than 90% of the market for publisher ad serving. Its exchange — “DoubleClick Ad Exchange” (“AdX”) —

controls more than 50% of the exchange market. Finally, Google offers two DSPs — “Google Ads” and “Display & Video 360” (“DV360”) — that control more than 70% of the DSP market.

36. For years, like scores of other publishers, Daily Mail has used DFP as its publisher ad server and AdX as its primary exchange.

37. Google acquired rather than built its ad-tech dominance. Google purchased its leading ad server and exchange when it acquired DoubleClick in early 2008. Google acquired the forerunner to DV360 in 2010. And Google has acquired several other ad-tech services over the years — including the leading ad serving technology for small mobile app developers (AdMob) and the forerunner for Google’s data management platform (Google Analytics, previously Adometry).

38. With control over each ad-tech product market, Google exacts fees from publishers and advertisers alike — for the sale of *each* impression. By default, Google charges publishers a fee to serve the impression and then a second fee (for AdX, typically 20% of the sale price) to manage the auction in its exchange. On the advertiser side, Google charges a fee for its DSP service and then other fees for data analytics.

C. Google’s Manipulation of Real-Time Bidding

40.39. Because publishers sell high volumes of impressions in milliseconds, it is infeasible to hold multi-round auctions, where bidders can respond to each other’s bids until the highest bid prevails. Rather, a publisher has only one chance to accept and assess bids.

41.40. To encourage competition among advertisers, publishers solicit bids in “real time” — *i.e.*, publishers want as many advertisers as possible to bid immediately when an impression becomes available. The faster the bids are submitted, the faster the publisher can load the page

for the reader. And, the more bids the publisher receives, the higher the price it gets for its ad space. Advertisers bid higher when there are more competitors for the same inventory.

42.41. Google represents that its publisher ad server, as a tool for publishers, maximizes the yield for publishers' inventory. But Google operates under a conflict of interest. With its control over publisher ad serving, Google controls how publishers solicit and evaluate real-time bids for their inventory. Meanwhile, by operating the dominant exchange and dominant buy-side software, Google is the most powerful buyer of that inventory. The mechanics of Google's conduct have evolved over time, but the result has remained the same: Google manipulates the process of real-time bidding to exclude rival exchanges, underpay for publisher inventory, and ultimately reduce the quality and quantity of online news.

1. Dynamic Allocation

44.42. Shortly after acquiring DoubleClick, Google introduced "Dynamic Allocation" to its ad server, DFP. Dynamic Allocation was the decision rule governing how AdX competed against non-Google exchanges. First, publishers estimated an historical average CPM (a "static bid") for each non-Google exchange it used. Second, once an impression became available, DFP sent the highest static bid as a "price floor" to Google's exchange, AdX, and called AdX to run a real-time auction and submit a bid. AdX would win the impression if its real-time bid was higher (even one penny higher) than the highest static bid. Once AdX beat the highest static price, no other exchange was permitted to compete for the impression. Thus, with DFP, AdX was the only exchange that could bid in real time for each impression.

45.43. Dynamic Allocation caused substantial financial harm to publishers, including Daily Mail. Because Daily Mail could call exchanges only one at a time, it could not compare offers between exchanges. That left Daily Mail to accept AdX's bid even though, had a

subsequent exchange been permitted to bid, it would have offered more for the impression. Further, even though AdX was bidding in real time, it was competing against only the highest *static* bid. A static bid is just a publisher's estimate of an exchange's historical, average bidding price, so it systematically underestimates the exchange's willingness to pay for valuable impressions. Real-time bids, meanwhile, respond to the value of the particular impression and thus are higher than static bids for valuable inventory. As a result, competing against static bids only, AdX could buy Daily Mail's most valuable inventory at one penny above average prices. Put another way, AdX could buy box seats at the ballpark for the price of the grandstands.

46.44. How DFP operated in practice, with Dynamic Allocation, directly contradicted the representations Google had made to induce publishers to use its ad server. ~~For example,~~ Google ~~For example, Google agreed with Daily Mail that DFP would not use Daily Mail's data~~ "for purposes of informing bids" placed by Google through its exchange. Google also had assured publishers, including Daily Mail, that DFP would serve their interests and that Dynamic Allocation in particular would "maximize yield." Similarly, Google ~~also~~ told publishers, including Daily Mail, that Dynamic Allocation was a "risk-free way to get the highest real-time revenues for all their non-guaranteed impressions." As Google knew and discussed internally, however, Dynamic Allocation depressed publishers' revenue. When exchanges competed head-to-head, Google found, publishers' clearing prices increased by an average of 40%. Google therefore knew that its ad server, while supposedly a tool to maximize publishers' revenue, in fact operated against publishers' (including Daily Mail's) interests.

2. Last Look

48.45. To work around the inadequacies in Google's ad server, publishers eventually developed a solution called "client-side header bidding." Publishers could configure an auction

in the reader's browser where multiple exchanges bid on a per-impression basis in real time. Because header bidding occurred before the publisher called DFP to fill the impression, publishers could collect header bidding's per-impression bids and input them as a "line item" in DFP to compete against AdX. This was the first time that publishers could compare real-time offers from several exchanges at once. In the years since, some firms have introduced "server-side" header bidding, where exchanges compete in real time on a third party's servers rather than on the browser. For example, since 2018, Google has offered its own server-side option called originally called "Exchange Bidding," and now named "Open Bidding."

49.46. The results of header bidding were favorable for publishers and consumers: increased competition for publisher inventory led to higher prices and more investment in online content. After setting up client-side header bidding, between 2016 and 2019, Daily Mail saw a 124% increase in revenue from ad sales. Even Google recognized that "pitting multiple exchanges against one another fostered price competition, which was good for [publishers'] business."

50.47. But client-side header bidding did not restore competition for publishers' inventory, because AdX still did not compete against rival exchanges in real time — *i.e.*, it did not submit its bid at the same time as its rivals. AdX instead cheated off its rivals before setting its own bid. Applying Dynamic Allocation, DFP sent the winning bid from client-side header bidding to AdX as a price floor. AdX then won the impression if it could outbid the winning header-bidding bid by a penny. Because the header-bidding auction was conducted first, AdX's access to rivals' inside information was called "Last Look."

51.48. Last Look caused Daily Mail significant financial harm for several years. Rather than AdX submitting the highest bid available from its participating DSPs, based on the value of

the impression to those DSPs, AdX shaved off the top because it knew the next highest price to beat. For example, if header bidding returned a \$4.00 bid, Google could win the impression for \$4.01 rather than offer the best price (*e.g.*, \$6.00) from its DSPs. In short, Google traded on inside information and bought Daily Mail's inventory on the cheap.

3. Unified Auction

~~53.49.~~ In 2019, Google claimed to give up its Last Look advantage when it changed the DFP auction rules and enforced a so-called "Unified Auction." But, as part of the Unified Auction, Google created a functionally identical advantage it now calls "Minimum Bid to Win."

~~54.50.~~ After an auction concludes, DFP tells the "Authorized Buyers" in the Unified Auction — the DSPs participating in AdX (including Google's DSPs: DV360 and Google Ads) and certain other exchanges — what the minimum price to win the impression would have been. This is *not* merely the price at which the impression sold; rather, Google tells the winning bidder the second highest price that was placed in the auction — *i.e.*, the cheapest price at which the winning DSP could have won the impression. Minimum Bid to Win thus provides functionally the same information as Last Look: the next highest price to beat.

~~55.51.~~ The only difference from Last Look is that Google now knows the minimum winning price immediately *after*, rather than *before*, an auction closes. For Google Ads and DV360, this difference proves to be immaterial. DSPs buy impressions by the thousands. The minimum price at which a prior auction could have cleared is an incisive predictor into the minimum clearing price of the next, similar auction. Google can use the minimum clearing price from one auction to inform its bid on the next impression for the *same* user on the *same* page.

~~56.52.~~ To this day, Daily Mail continues to suffer significant financial injury on account of Minimum Bid to Win. The harm to Daily Mail's business is even worse than Last Look.

Since Google enforced the Unified Auction, Google has more than doubled its share of Daily Mail's inventory yet pays sharply lower CPMs.

4. Other Forms of Insider Trading

53. Last Look and Minimum Bid to Win are only two of the many ways that Google exploits its access to rivals' bid information. As described in detail below, Google employs several other tricks to rig its bids. For example, "Dynamic Revenue Share" allows AdX to adjust its 20% "revenue share" fee when manipulating the bidding price alone would not be enough to win impressions by a penny. See *infra* § III.B.5. Further, with "Project Bernanke," AdX returns bids even lower than what would prevail if Google relied on Last Look alone, but then charges advertisers the higher (though still deflated) Last Look price. Google pockets the difference — which amounts to an additional hundreds of millions of dollars stolen from publishers — and uses it to manipulate its bids in billions of other auctions. See *infra* § III.B.4.

57.54. Ultimately, however styled, Google's misuse of rival bidding information is the core of its business model. Because Google controls the ad server, it can control when its exchange submits bids for impressions, and what information ~~is~~it has beforehand. Because Google does not compete in real time, it undermines the competitive process that publishers need to sell their inventory at competitive prices.

II. RELEVANT MARKETS AND GOOGLE'S MARKET POWER

A. Publisher Ad Servers

2.1. Market Definition

59.55. Publisher ad servers for display inventory in the United States form a relevant antitrust product market. Publisher ad servers are inventory management systems that publishers use to manage their online display ad inventory: available on desktops, mobile web, and mobile

applications. Among other features, ad servers (1) collect user-identification information; (2) manage direct and indirect sales channels; (3) forecast what inventory will be available to sell; (4) permit a publisher's sales team to input requirements and parameters for the publisher's display ads; (4) allocate inventory among exchanges; (5) generate reports on ad inventory performance; ~~and~~ (6) load ads on the publisher's website or mobile app; (7) create invoices for a publisher's direct sales; and (8) manage display ad inventory for both websites and mobile applications.

~~60.56.~~ Most publishers use only one ad server to manage their ad inventory. “Multihoming” among multiple ad servers is impracticable. A publisher cannot feasibly use two different sets of software to sell the same inventory. For example, using multiple ad servers can create conflicts between a publisher's inventory.

~~61.57.~~ Publisher ad servers also are unique — they are not interchangeable with ad exchanges or ad networks. For example, an exchange cannot route inventory to other exchanges, nor can it load advertisements on the publisher's webpage and provide reports regarding inventory performance across multiple source of demand. An ad network likewise cannot manage and organize multiple demand sources. For an ad-supported publisher like Daily Mail, a publisher ad server is the only tool a publisher can use to manage its inventory.

58. Internally, Google recognizes that the market for ad servers is distinct from markets for other ad-tech products. Google calculates its share of the ad-server market without accounting for ad exchanges or networks.

59. Publicly, Google has recognized that publisher ad servers form a distinct market. When Google acquired DoubleClick and its leading ad server, Google represented to the FTC that an ad server was “not [a] direct substitute[]” for an ad network, calling any assertion to the

contrary “seriously flawed and utterly divorced from commercial reality.” According to Google, an increase in the price for DoubleClick’s ad server would have caused publishers to “switch to other publisher-side ad serving products, such as those” available at the time from “24/7 Real Media [and] Atlas/aQuantive.”

~~62.60.~~ Nor is building an ad server a substitute for licensing an ad server. Building an ad server from scratch requires scale, substantial capital, and deep access to highly sophisticated engineering sources; it is not a viable option for Daily Mail.

~~63.61.~~ The relevant geographic market is the United States. Ad servers available in other countries are not a reasonable substitute for ad servers available in the United States.

3.2. Monopoly Power

~~65.62.~~ Google is a monopolist in the relevant publisher-ad-serving market. Google’s DFP (since rebranded as part of “Google Ad Manager”) today has more than a 90% market share. Google’s market share nearly has doubled since it purchased DoubleClick in 2008. Since then, several ad-serving rivals — including 24/7 Real Media, aQuantive, and ValueClick — have exited the market. There are almost no ad-serving competitors left.

63. Google’s market share has grown consistently since it acquired DoubleClick’s ad server. In 2010, just two years after acquiring DFP, Google internally estimated that its ad server managed 78% of gross spending on display advertising across the top 400 publishers in North America. By 2012, approximately 85% of publishers in the United States licensed Google’s ad server. That number grew to more than 90% by 2015.

~~66.64.~~ Google’s monopoly power is confirmed by direct evidence. For years, Google has degraded the quality of its ad server with severe limitations despite widespread dissatisfaction among publishers. ~~Dynamic Allocation and Minimum Bid to Win are only two of~~

~~several examples of DFP rules that depress publisher revenue~~ As discussed below, Google has, *inter alia*, (1) degraded publishers' ability to measure performance among exchanges; (2) limited publishers' ability to set higher prices for their inventory; (3) reduced real-time competition between exchanges; and (4) permitted Google's exchange to return bids based on rivals' bid information.

~~67-65.~~ Google's monopoly in publisher ad serving is protected by high barriers to entry. Switching ad servers is costly and resource intensive. Publishers like Daily Mail would need to reconfigure hundreds of millions of webpages to change ad servers — and there would be a significant risk to revenue if there was any glitch during the transition process.

~~68-66.~~ Another barrier to entry is that Google has tied its ad server to AdX, which is the dominant exchange in the ad exchange market. Today, publishers cannot access AdX without using DFP. Any ad-serving competitor therefore would have to enter the ad exchange and ad serving markets simultaneously — and at sufficient scale to convince publishers to forgo AdX. Such simultaneous entry in the exchange and ad serving markets is all but impossible.

B. Ad Exchanges

2.1. Market Definition

~~70-67.~~ The market for display advertising exchanges in the United States is a relevant antitrust product market. These exchanges are marketplaces that auction publishers' webpage and app-based display inventory to end-advertisers through ad-buying programs (including DSPs) on an impression-by-impression basis.

~~71-68.~~ Ad exchanges are not interchangeable with ad networks, which are marketplaces designed for smaller publishers and smaller advertisers. Unlike ad networks, ad exchanges do not bear inventory risk and are designed to integrate with multiple DSPs so that publishers can

entertain more bids for their inventory. Further, most large advertisers buy inventory primarily through exchanges rather than ad networks. Reflecting that ad networks are not a substitute for ad exchanges, Daily Mail sells 87% of its United States indirect display inventory to exchanges, not networks. Daily Mail sells a similar proportion of its foreign indirect display inventory to exchanges, not networks.

72.69. Ad exchanges also are not interchangeable with the direct sales channel. Buying and selling ad inventory directly is costly; a publisher must employ a dedicated sales staff to manage, sell, and serve online ad campaigns. It would be infeasible for Daily Mail to scale up its direct deals to substitute for its indirect deals. Indeed, for Daily Mail, the direct sales channel reflects only 1% of all impressions sold on Daily Mail pages in the United States, and accounts for only 30% of revenue sold in the United Kingdom.

70. Google itself analyzes the exchange market without reference to ad servers, ad networks, or DSPs. Specifically, Google measures AdX's market share by tracking its percentage of overall exchange market revenue and exchange impression volume, i.e., how many impressions AdX intermediates as compared with other exchanges. Meanwhile, Google describes direct sales and ad networks as separate channels with "distinct characteristics."

73.71. The relevant geographic market is the United States. Ad exchanges available in other countries are not a reasonable substitute for display ad exchanges in the United States.

3.2. Monopoly Power

75.72. Google is a monopolist in the relevant ad exchange market. Google's exchange (AdX) transacts over 5060% of all display ad inventory sold on ad exchanges. For instance, from October 2018 to October 2019, AdX transacted over 60% of all display inventory sold through exchanges in the United States. Another market study shows that AdX controls upwards

of 64% of display advertising spending. AdX likewise transacts roughly 50% of Daily Mail's entire ad inventory. Meanwhile, AdX's next largest competitors — Rubicon, AppNexus, and Index Exchange — transact a much smaller share ~~of publisher ad inventory~~ (typically 4% or 5% each) of display impressions for most publishers. Rivals' market share has not grown appreciably in years, and many rivals (e.g., Microsoft, Yahoo!) have exited the market. In 2018, Google's exchange transacted \$7.6 billion in gross revenue — more than all other exchanges combined.

~~76.73.~~ There is also direct evidence of Google's monopoly power in the relevant ad exchange market. Most importantly, AdX is able significantly to underpay for publishers' inventory without losing market share. Indeed, since 2019, Google has more than doubled the share of Daily Mail inventory it transacts through its exchange, despite the fact that AdX's average prices have fallen by more than 70%. Google returns lower prices for Daily Mail's inventory but nonetheless transacts more of it through its exchange.

~~77.74.~~ Additionally, Google charges a substantially higher revenue share than its rivals, and its market share has grown (and rivals' share has not grown) despite rivals *reducing* their revenue shares over the last few years. In 2017, for instance, rival exchanges slashed their take rates to 12% or lower. By contrast, AdX maintained an average take rate of 20% and still was able to increase its market share. Google internally recognized that functioning market forces would be expected to push exchange rates down to 5%, because “20% for just sell-side platform/exchange isn't likely justified by value.” Yet AdX's take rate has not budged. Google therefore can impose substantial, non-transitory price increases without losing (and in fact while increasing) its share of the exchange market.

~~78.75.~~ Google's market power in the exchange market is protected by barriers to entry. Google's exchange is uniquely powerful because it includes all advertisers who also are buying search ad inventory on Google's monopoly search results pages. To compete, rival exchanges would have to provide search inventory at a similar scale to Google and then control the complementary demand for display inventory, which is impossible in the foreseeable future.

~~79.76.~~ Google's anticompetitive conduct has erected additional barriers to entry. Google's ad server, DFP, insulates AdX from competition as discussed at length below (*see infra* § III.B), meaning that a better ad exchange still would not have the same access to publishers' inventory as AdX.

C. General Search Services

~~2.1.~~ Market Definition

~~81.77.~~ General search services in the United States is a relevant antitrust market. General search services allow consumers to find responsive information on the internet by entering keyword queries in a general search engine. In the United States, there are four meaningful general search providers: Google, Bing, Yahoo!, and DuckDuckGo.

~~82.78.~~ General search services are unique because they offer consumers the convenience of a "one-stop shop" to access an extremely large and diverse volume of information across the internet. Consumers use general search services to perform several types of searches, including navigational queries (seeking a specific website), informational queries (seeking knowledge or answers to questions), and commercial queries (seeking to make a purchase).

~~83.79.~~ Other search tools, platforms, and sources of information are not reasonable substitutes for general search services. Offline and online resources, such as books, publisher websites, social media platforms, and specialized search providers such as Amazon, Expedia, or

Yelp, do not offer consumers the same breadth of information or convenience. These resources are not “one-stop shops” and cannot respond to all types of consumer queries, particularly navigational queries. Few consumers would find alternative sources a suitable substitute for general search services. Thus, there are no reasonable substitutes for general search services, and a general search service monopolist would be able to maintain quality below the level that would prevail in a competitive market.

~~84:80.~~ The United States is the relevant geographic market for general search services. Google offers users in the United States a local domain website with search results optimized based on the user’s location in the United States. General search services available in other countries are not reasonable substitutes. Google analyzes search market shares by country, including the United States.

~~3:2.~~ **Market Power**

~~86:81.~~ Google has monopoly power in the United States general search services market. Google today dominates the market with an 88% market share, followed far behind by Bing with about 7%, Yahoo! with less than 4%, and DuckDuckGo with less than 2%. Moreover, for searches from mobile devices specifically, Google accounts for almost 95% of all searches.

~~87:82.~~ There are significant barriers to entry in general search services. The creation, maintenance, and growth of a general search engine requires a significant capital investment, highly complex technology, access to effective distribution, and adequate scale. For that reason, only two U.S. firms — Google and Microsoft — maintain a comprehensive search index, which is just one, albeit fundamental, component of a general search engine.

~~88.83.~~ Scale is also a significant barrier to entry. Scale affects a general search engine's ability to deliver a quality search experience. The scale needed to compete successfully today is greater than ever.

~~89.84.~~ Google's large and durable market share and the significant barriers to entry in general search services demonstrate Google's monopoly power in the United States.

III. UNLAWFUL CONDUCT

A. Google Monopolizes Publisher Ad Serving

~~90.85.~~ Publishers program the ad server to auction available ad space. As a result, the publisher ad server is key to monetizing a publisher's webpage.

~~91.86.~~ Google's strategy has been to monopolize publisher ad serving so it can control how publishers sell their ad inventory. Google now controls over 90% of the publisher-ad-serving market. With that control, Google routes publishers' inventory to its own exchange without having to compete against rival exchanges.

~~92.87.~~ Google monopolizes publisher ad serving by tying its ad exchange (AdX) to its publisher ad server (DFP). Today, Google permits publishers to clear transactions for impressions through AdX only if they also use DFP.

~~93.88.~~ This tying arrangement coerces Daily Mail to use DFP as its publisher ad server. Daily Mail would not use DFP as currently offered by Google but for the tie with AdX. It is not in Daily Mail's interest to employ an ad server that does not promote competition among exchanges. Competition for inventory leads to higher prices and higher revenues for Daily Mail.

~~94.89.~~ Nonetheless, Daily Mail must accede to the tie and use DFP because AdX — with over ~~50~~60% of the exchange market and currently the clearinghouse for upwards of 50% of Daily Mail's impressions — is a must-have exchange for Daily Mail.

~~95.90.~~ With control over publisher ad serving achieved and now entrenched by tying, Google also has maintained its monopoly by eliminating its greatest competitive threat: client-side header bidding. For years, Google worried that publishers would develop client-side header bidding into an alternative to DFP. So, by abusing DFP to route impressions away from header-bidding participants and to AdX, Google ensured that client-side header bidding never could achieve the scale or investment necessary to become a substitute for DFP.

1. Google ties AdX to DFP (2008 – 2018)

~~96.91.~~ With the DoubleClick acquisition in 2008, Google acquired the market’s leading publisher ad server (DFP) and a nascent ad exchange (AdX). Almost immediately thereafter, Google set the foundation for an illegal tie between the two.

~~97.92.~~ *First*, Google leveraged its search monopoly to lock advertiser demand for display inventory into AdX. As Google began selling ad space on its search results pages, Google required advertisers to use a DSP called “AdWords” to purchase Google’s search ad inventory — the largest and most valuable source of search ad inventory available. Further, AdWords usually was an advertiser’s *only* DSP, because multihoming was too difficult and costly except for the most sophisticated buyers. To capitalize on its control over advertisers, Google permitted advertisers to purchase publishers’ online display inventory through AdWords, but *only* by bidding through AdX. That confined a substantial percentage of available demand to Google’s exchange and made it a must-have exchange for publishers.

~~98.93.~~ The link between AdWords (now called “Google Ads”) and AdX remains today. In 2016, Google started routing Google Ads advertiser demand to non-Google exchanges, but only on a limited and ultimately immaterial basis. And, as before, most advertisers continue to use only one DSP, which is usually Google Ads. Consequently, millions of small- to medium-

sized businesses now use Google Ads (and no other DSP) to bid on and purchase digital ad space. That demand is available to publishers only if they sell inventory through AdX.

99-94. Google also has taken steps to lock even large advertisers into AdX. Google makes many of the features in DV360 (*e.g.*, affinity audiences targeting) unavailable to advertisers if they participate in exchanges other than AdX. As a result, advertisers must move more of their spending into AdX, thereby enhancing its market power. Daily Mail's experience reflects this market reality — 89.7 % revenue generated from DV360 buyers is intermediated by AdX.

100-95. *Second*, with much of the available advertiser demand captured in AdX, Google permitted AdX to bid in real time only if a publisher licensed DFP. With a different ad server, AdX would not enter bids in real time. This arrangement made no short-term economic sense for Google, because an exchange placing static bids, which are systematically lower than real-time bids, is less likely to win an impression. A lower win rate, in turn, generates less money for the exchange, as an exchange can take its revenue share only if it wins the impression. Google therefore decided to forgo immediate revenue from real-time bids in order to exert control in the publisher-ad-serving market.

101-96. With the largest cross section of advertiser demand captured in AdX, and by offering more valuable, real-time bids only to publishers using DFP, Google forced Daily Mail to use DFP as its ad server. Daily Mail could not afford to forgo the most valuable real-time bids from the largest exchange, even though it did not want to hand over control of its inventory to Google. The tie plainly worked: while DFP was roughly 50% of the publisher-ad-serving market when Google acquired it, it controls upwards of more than 90% today.

~~102.97.~~ Google did not acquire that market share by building a better ad server — indeed, DFP causes Daily Mail significant and ongoing financial injury — but rather by capitalizing on the fact that Daily Mail and others must do business with AdX. Daily Mail has no interest in a single firm providing it with an ad exchange along with an ad server. To the contrary, having the same company control the sell-side and the exchange creates a conflict of interest — *e.g.*, the owner of the exchange will abuse the ad server to route inventory to its exchange even when the publisher could make more money elsewhere. It is nearly impossible for a publisher to manage whether, when, and how often this is occurring, because the firm controlling the publisher ad server also can limit the publisher’s access to price and other information necessary to police the auction. As discussed below (*see infra* § III.B), Google is engaging in precisely that kind of self-dealing, to the detriment of Daily Mail and ultimately its readers.

~~103.98.~~ There is no technological or legitimate business reason for an exchange to decline to bid in real time depending on the publisher ad server. AdX is the *only* exchange that limits real-time functionality to a particular ad server. All non-Google exchanges submit real-time bids to the ad server of the publisher’s choosing. Moreover, any ad-serving rival readily would accept real-time bids from AdX, because that would permit it to offer a competitive ad server without having simultaneously to develop its own powerful exchange. That Google ties real-time bids from AdX to DFP is an exercise of power, not a technological or business necessity.

2. Google Ad Manager (2018 – Present)

~~104.99.~~ In 2018, Google rebranded DFP and AdX as a single offering called “Google Ad Manager” (“GAM”). Google renegotiated contracts with publishers, including Daily Mail, to phase out separate AdX and DFP agreements and thereby force publishers to

agree to a combined contract for both DFP and AdX. Now that DFP and AdX are contractually linked as GAM, it is impossible for a publisher with a GAM account to access AdX without using DFP as the ad server. If a publisher is to access the largest source of available advertiser demand—~~whether real-time or static~~, it must use license DFP as its ad server.

~~105.100.~~ Despite the GAM rebranding, DFP and AdX remain separate products. DFP and AdX continue to function as before, providing the same ad-serving and exchange functionality that existed before Google introduced GAM. DFP and AdX have provided no material performance benefits to Daily Mail since the introduction of GAM. Indeed, with the Unified Auction, Google only has increased the financial injury to Daily Mail. Google continues to charge separate fees for ad-serving and ad-exchange services.

~~106.101.~~ GAM is the culmination of the tying arrangement Google first enacted after the DoubleClick merger. Google coerced most publishers to use its ad server by offering real-time bids from AdX only to DFP. Now, to sweep in any stragglers and entrench its control over ad serving, Google does not permit *any* bids from AdX unless a publisher uses DFP.

3. Google Eliminates Client-Side Header Bidding (2014 – Present)

~~108.102.~~ With control over publisher ad serving, Google has defeated competition from its greatest threat: client-side header bidding. As discussed at length below (*see infra* § III.B), Google insulates AdX from competition against header-bidding exchanges and secures for AdX a growing share of publishers' inventory. As a result, there are fewer participants and less investment in client-side header bidding than would occur in a competitive market.

103. Google's neutralization of client-side header bidding maintains its monopoly in publisher ad serving because, as Google recognized for years, client-side header bidding offers one critical function much like DFP — routing publisher inventory to exchanges. Google

executives fretted that “[i]f header bidding consolidates all non-Google demand, we could lose our must-call status and be disintermediated.”

~~109~~104. In a competitive market with adequate investment, publishers, header-bidding developers, or a well-funded rival could have expanded client-side header bidding’s functionality to make it a viable DFP alternative. Google’s repeated efforts to stave off header bidding over many years have stymied the entry of that potential competitor.

B. Google Abuses DFP to Monopolize the Market for Ad Exchanges

~~110~~105. The goal of monopolizing publisher ad serving is to give Google control over access to publishers’ inventory. Google then funnels publishers’ inventory to its exchange, even though publishers would make more money if their ad space were sold through rivals.

~~111~~106. Google has an economic incentive to manipulate the market in favor of its own exchange. Google generally takes a 20% revenue cut from every transaction routed through its exchange — often several times higher than the fee charged by its exchange competitors. If another exchange manages the transaction, Google makes nothing.

~~112~~107. To stay ahead of publishers and further its control over the exchange market, Google has forced publishers to adopt ever-changing auction rules in DFP for many years. But Google’s scheme has retained the same basic core: exclude rival exchanges from submitting bids for publishers’ inventory in real time, depress prices for that inventory, and reduce the number of impressions available. Then, Google takes a growing share of that shrinking pie.

1. Google Hashes User IDs (2009 – Present)

~~113~~108. Before Google acquired DoubleClick, it assured that data stored in and generated by DFP belonged to publishers. Google promised publishers and Congress that DoubleClick “data is owned by the customers, publishers and advertisers, and DoubleClick or

Google cannot do anything with it.” Likewise, Google represented to publishers and the FTC that “customer and competitor information that DoubleClick collects currently belongs to publishers, not to DoubleClick.” Google committed itself to the “sanctity” of that principle.

109. For years, Google’s contracts with publishers, including Daily Mail, similarly established that publishers “own[ed]” all data “derived from the use of” DFP and AdX. For that reason, it remains the responsibility of the publisher, and not Google, to obtain the right for Google to use any data — including data on readers — in connection with providing ad-serving and exchange services.

~~114.~~110. Yet, shortly after acquiring DoubleClick, Google started to manipulate publishers’ data for its own ends. In 2009, Google programmed DFP to start “hashing” (*i.e.*, encrypting) the user IDs that publishers had been using to solicit targeted ads from advertisers. As a result, the IDs were unusable for buyers. With one exception: Google permitted *itself* to use the very same user IDs when setting its own bids. So, while Google blocked publishers from accessing and sharing their own user IDs with non-Google exchanges, Google shared the same IDs with AdX and its DSPs. Google’s discrimination against rivals persists to this day.

~~115.~~111. The result is significant financial harm to Daily Mail. In order to sell an impression at a price reflective of its true value, publishers need to be able to adequately identify the user who will view the impression. User IDs permit publishers and their exchanges to understand the value of inventory, cap the number of times users see the same ad, and effectively target and track online advertising campaigns. When exchanges and their DSPs cannot identify users in auctions, the prices of impressions fall by 50%, according to one Google study. The impact to Daily Mail is likely worse — Daily Mail has found that advertisers pay over 60% less for impressions when user IDs are unavailable.

~~116.~~112. Google's publicly stated reason for DFP eliminating publishers' ability to share their user IDs with non-Google exchanges is the protection of user privacy. But that justification is belied by Google's self-dealing. Google prevents others from doing what it does itself: passing user IDs to its exchange and DSPs. In fact, Google presents a far greater threat to personal privacy than any publisher. Among many reasons, only Google can combine ~~DFP~~publisher's data stored in DFP with data from its owned and operated properties, including YouTube, Gmail, and Google Maps. Google's access to data at such scale is unmatched, and Google uses that data to fuel algorithms that glean and expose ever-increasing amounts of information about users, including highly personal data. Google told publishers and regulators before the DoubleClick acquisition that it never would combine DoubleClick with Google data, but that also was a false promise. Google began combining the datasets in 2016.

113. At bottom, Google's hashing of user IDs is irrational but for its effect on rival exchanges. Any profit-oriented operator of a publisher ad server would want to maximize the volume and value of impressions that are served. Serving more, higher value impressions means more money for the ad server. But Google nonetheless hashes user IDs, which depresses the price for publishers' inventory, undermines investment in additional online content, and thereby reduces the number of impressions available for sale. By hashing user IDs, Google sacrifices ad-serving revenues in order to handicap its exchange rivals.

2. Last Look (2014 – 2019)

~~117.~~114. Before header bidding, exchanges originally ran second-price auctions: the winning DSP would pay one penny higher than the second highest bid. Second-price auctions were popular at that time because exchanges did not compete in real-time. An exchange would win the impression so long as its bid cleared the publisher's price floor, which was static and typically lower than what a second exchange would have offered in real time. Without

having to compete among themselves, exchanges could afford to bid less than the most competitive bid from their participating DSPs.

~~118.~~115. Client-side header bidding introduced real-time competition among exchanges, which meant that exchanges had to compete more vigorously for publishers' inventory. Accordingly, most exchanges moved to first-price auctions, where the winning bidder pays the full price of his bid. With more exchanges competing in real time for the same inventory, exchanges no longer could afford to withhold their DSPs' best offers.

~~119.~~116. Except for Google's AdX. With Dynamic Allocation, AdX knew the winning bid from header bidding (*i.e.*, the price to beat), *before* it called its DSPs to submit bids for the impression. AdX could run a second-price auction but adjust the clearing price when needed to outbid a competitor by a penny. This Last Look advantage allowed Google to preserve AdX's second-price auction and stabilize its prices only slightly higher than its competitors, rather than submit its highest bid based on the value ascribed to the impression by its DSPs. In that way, Google's trading on inside information depressed publishers' revenue.

~~120.~~117. For example, without Last Look, if header bidding returned a bid of \$4.00 and AdX ran a typical second-price auction with \$6.00 and \$3.00 bids, the AdX auction would clear at \$3.01, and the winning header-bidding exchange would win the impression for \$4.00. Without inside information, AdX would have needed to submit a \$6.00 bid to win the auction. However, because of Last Look, AdX did not need to compete on a first-price basis and place the available \$6.00 bid. Instead, AdX could increase its bid from \$3.01 to \$4.01 and win the impression by a penny. Only because AdX knew the price to beat for the impression could it maintain a second-price auction with little risk of losing to first-price competitors.

~~121.118.~~ Without Last Look, AdX would have moved to a first-price auction with the rest of the competition. AdX gets paid only if it intermediates a transaction; thus, Google's incentive would have been to bid higher prices to ensure victory. Yet, while most exchanges ran first-price auctions by 2017, AdX did not purport to move to a first-price auction until 2019 (~~see *infra* ¶ 144~~). And even then, Google has continued to ~~insulate AdX from competition~~ (~~see *infra* ¶¶ 139-151~~) develop auction rules that effectively entrench and expand Last Look (~~see *infra* § III.B.7~~).

~~122.119.~~ Last Look not only permitted AdX to compete less vigorously for impressions; it also helped AdX manage a greater share of transactions. To take the previous example, a DSP valuing the impression at \$6.00 would face two options: bid in header bidding where it would have to pay full price, or bid in AdX, which could get a \$1.99 discount. For DSPs, that is not a difficult call. Google's access to inside information coalesced more demand in AdX.

~~123.120.~~ Last Look also permitted AdX to maintain its 20% revenue share — several times higher than its competitors — despite price competition from rivals. Because exchanges present bids to the ad server on a “net” basis, *i.e.*, with the revenue share subtracted out, DSPs submit their bids to AdX knowing that the ad server will see only 80% of the actual bid that wins in AdX. So, if a DSP wins the \$6.00 impression for \$4.01, it actually must pay \$5.01. That is still a good deal because AdX is trading with Last Look. But, without that advantage, a \$6.00 bid through AdX is more expensive than a \$6.00 bid through a lower-priced rival. DSPs naturally would have moved spending to rival exchanges unless AdX lowered its revenue share.

121. A Google study confirms that Last Look caused advertisers to migrate from non-Google exchanges to AdX and Google’s DSPs. And Google has admitted internally that “Last Look is inherently unfair.”

124.122. Google’s Last Look behavior was monopsonistic: rather than bid at competitive prices and compete with rivals for advertiser demand on price and quality of service, Google secured more advertisers bidding in AdX at reduced prices. Thus, Google was able to take exchange volume from rivals and intermediate a higher share of lower-value transactions.

123. Moreover, Google did so while lying to publishers, including Daily Mail. For years, Google explicitly has promised in its DFP and AdX (and now GAM) contracts not to use “data entered by [publishers] . . . that is not generally shared with buyers” — including header-bidding bids entered as line items in DFP — “for purposes of informing bids” made by Google. In that way, and in conjunction with its myriad promises that Dynamic Allocation “maximizes yield,” Google concealed its market manipulation from Daily Mail and induced it to permit DFP to run Dynamic Allocation across its inventory.

124. Google now claims that it ended Last Look in 2019. Its assurances are false. As discussed at length below, Google has enacted additional auction rules across publisher inventory that substantively parallel Last Look and inflict even greater harm on publishers. Additionally, in one recent regulatory filing, Google confirmed that Last Look against publishers’ direct deals persists to this day.

3. Enhanced Dynamic Allocation (2014 – Present)

125. Not long after publishers introduced client-side header bidding, Google doubled down on Last Look with Enhanced Dynamic Allocation. DFP began converting publishers’ *direct* deals into “temporary” CPMs, which DFP sent to AdX as a price floor. AdX then could beat out prior, directly negotiated deals so long as it could bid one penny higher than the DFP-

assigned temporary CPM. ~~Google since has claimed to remove Last Look for publishers' indirect sales (see *infra* ¶ 144), but in one recent regulatory filing, Google confirmed that Last Look against direct deals persists to this day.~~ Google also has introduced an add-on to Enhanced Dynamic Allocation called "Optimized Competition," which, by use of an algorithm, lowers a direct deal's temporary CPM before passing it along as a price floor.

126. Enhanced Dynamic Allocation further ~~entrenched~~entrenches AdX's control over the exchange market. ~~DFP subjected a publisher's entire inventory to Prior to Enhanced Dynamic Allocation, meaning Daily Mail deployed a method to permit header-bidding exchanges to compete against its direct deals. But in 2017, when Daily Mail entered into a new contract for its U.S. publisher ad server, Google eliminated Daily Mail's ability to sell this high-value inventory to header-bidding exchanges and instead gave AdX exclusive access to publishers' direct deal inventory through Enhanced Dynamic Allocation. That meant~~ not only that AdX ~~(and AdX alone)~~ could intermediate transactions that ~~once were outside its rivals no longer could~~ reach, but also that it could do so aided by Last Look. Exchanges participating in header bidding, meanwhile, were not permitted to compete against direct deals for many years. AdX thereby resurrected the pre-header bidding regime for publishers' direct deals — only AdX could bid in real time. That depressed Daily Mail's revenue and created a new incentive for advertisers to bid through AdX.

127. Additionally, Google never has given publishers insight into how DFP calculates the temporary CPM it sends as a price floor, or how Optimized Competition adjusts that temporary CPM. Publishers cannot verify whether the temporary CPM understates the value of a direct deal for any particular impression. As a result, AdX can win impressions even if a direct deal would have paid more. Moreover, DFP can allocate to AdX the most valuable impressions

while leaving publishers' direct deals, which publishers and advertisers previously had negotiated in good faith, to fill less valuable inventory at higher, previously contracted prices.

128. Google induced publishers, including Daily Mail, to enable Enhanced Dynamic Allocation by falsely telling them it "maximizes yield." In 2014, Google employees repeatedly pressured Daily Mail to enact Enhanced Dynamic Allocation, promising higher revenue. But, internally, as investigations from domestic and foreign antitrust enforcers recently have revealed, Google knew that Enhanced Dynamic Allocation improved only its yield, not publishers' bottom line. Enhanced Dynamic Allocation allowed Google to cherry-pick Daily Mail's best impressions while reducing the value of Daily Mail's current and future direct deals.

129. Daily Mail relied on Google's misrepresentations and enabled Enhanced Dynamic Allocation, which Daily Mail now cannot feasibly shut off. ~~If~~ With "Project Bernanke" (see *infra* § III.B.4), Google siphons revenue from publishers who decline to enable Enhanced Dynamic Allocation and reallocates it to publishers who do. Further, if Daily Mail were to disable Enhanced Dynamic Allocation ~~today~~ (which since has been rebranded as just "Dynamic Allocation";) today, AdX would refuse to submit ~~any real-time~~ live, competitive bids. ~~Moreover, to this day for its impressions. Thus, Daily Mail still cannot measure the effect of Enhanced Dynamic Allocation on its revenue, because, among other things, Google will not disclose how it calculates and adjusts temporary CPMs. Daily Mail remains in the dark about the impact of~~ has no choice but to accede to Enhanced Dynamic Allocation ~~on~~ and accept depressed prices for its business, left only with Google's uncreditable reassurances most valuable inventory.

4. Project Bernanke (2013 – Present)

~~131. — Around the same time Google enforced Last Look, Google introduced a similar advantage for its DSPs competing against rival DSPs in AdX. Google hid this program from publishers and advertisers for years. According to an April 10, 2021, article in the *Wall Street Journal*, Google codenamed its program “Project Bernanke.”~~

~~132. — With Project Bernanke, Google’s DSPs trade on inside information to take impressions from rival DSPs, much like AdX misused rival bids with Last Look. For example, if Advertiser A bids \$5.00 CPM through Google Ads, and Advertiser B bids \$6.00 CPM through a rival DSP, Google manipulates Advertiser A’s bid so it wins the auction in AdX, even though Advertiser B submitted the highest bid. In this way, Google exacts one fee for routing the impression through its exchange, and a second fee for routing the impression through its DSP. Google projected that Project Bernanke would make it an additional \$230 million in its first year.~~

~~133. — The mechanics of Project Bernanke have evolved (and continue to evolve) over time, but to this day, Project Bernanke continues to reinforce Google’s exchange monopoly. Much like advertisers have an incentive to move their ad spending to an exchange that benefits from inside information, they also have an incentive to move ad spending to a DSP with an additional Last Look advantage. Because Google’s DSPs bid almost exclusively through AdX, more ad spending in Google’s DSPs results in a greater share of available spending in AdX, enhancing Google’s market power in the exchange market.~~

130. — AverageIn parallel with Last Look, Google has developed an additional bid-rigging scheme that capitalizes on AdX’s unlawful access to inside information. As noted above, exchanges historically ran second-price auctions — auctions in which the highest bidder paid only a penny higher than the second highest bid or the publisher’s price floor (if it was the only exchange to meet the floor). From 2010 to 2019, Google publicly and repeatedly professed that

AdX ran a “sealed bid second-price auction.” Publishers, including Daily Mail, relied on these representations in designing their inventory-management strategies.

131. What publishers only recently discovered, however, is that Google’s representations about the AdX auction were false. Code-named “Project Bernanke,” Google actually ran AdX as a *third-price* auction for billions of impressions every month. For example, when at least the two highest bids received by AdX were from Google Ads, Google would pay the publisher a penny more than the *third-highest* bid (so long as the third-price bid cleared publisher floors and beat out header bidding). So, if header bidding returned a bid of \$8.99, and AdX received 2 Google Ads bids for \$19 and \$18 and a third non-Google DSP bid for \$9, AdX would return a bid of \$9.01 (third price) rather than \$18.01 (second price), less its revenue share. As with Last Look, AdX could get away with its third-price scheme because it already knew the results of header bidding and could rig its bids accordingly.

132. But while Bernanke switched AdX to a third-price auction for publishers, nothing changed for advertisers — they still paid a penny above the *second-highest* price. Google keeps the difference and moves it to a “pool” to boost bids from Google Ads when they otherwise would lose the auction in AdX, and AdX would lose the final auction among exchanges in the ad server. Capitalizing on its artificial information advantage, Google used rival bids and unhashed user IDs from publishers’ ad servers to determine precisely how much to inflate Google bids in order to take impressions from competing DSPs and exchanges.

133. In an internal study, Google found that Bernanke could depress a publisher’s revenue by upwards of 40%. That revenue hit, like with Last Look, is a direct result of Google rigging its bids to win merely by a token amount over rivals, rather than bidding without inside information to win an impression based on its value to advertisers. Publishers, meanwhile, had

no way to know that Google was altering auction mechanics and hoarding their revenue in this way, until the facts of the program were revealed by government investigation.

134. Since it was introduced in 2013, Bernanke has gone through three variations. For each, the mechanics of the auction manipulation are similar, but they differ in how and where Google collects and spends the Bernanke “pool.” Starting in 2013, the first version of Bernanke operated on a per-publisher basis. Google would siphon revenue from an AdX auction for a particular publisher’s impression, and then would use the stolen funds to inflate Google bids in future auctions for that same publisher’s inventory. The original iteration of Bernanke also set third-price auctions based solely on publisher-set floors.

135. In May 2015, Google launched “Global Bernanke.” Google no longer restricted the Bernanke pool to a single publisher. Rather, as the name suggests, Global Bernanke skimmed revenue from *all* publishers’ auctions and placed it into a “Global” pool to boost Google bids worldwide. Global Bernanke also permitted Google to rig third-price auctions based on the results of header bidding or temporary CPMs from direct deals.

136. The third variation of Bernanke, known as “Bell,” is the most punitive. For publishers who attempt to counteract AdX’s bid rigging or other anticompetitive advantages — *e.g.*, by declining to enable Enhanced Dynamic Allocation — Google places deflated bids in third-price auctions and then withholds *all* Bernanke pool money in future auctions. Google thus purposefully *loses* millions of auctions — and thereby forgoes revenue — solely for the purpose of punishing noncompliant publishers. It is no surprise that Google hid Bell from publishers, instructing its employees to tell publishers to “just make sure [Enhanced Dynamic Allocation] is working or AdX is booked higher” in a publisher’s server. Bell only recently has been uncovered by government enforcers and, according to their investigations, persists to this day.

137. Bernanke, in its various forms, is irrational but for its destruction of competition. By depressing its bids yet further in third-price auctions, AdX forgoes immediate revenue solely because it can trade on inside information to win a greater share of impressions in the future. Further, for the Bell variation, Google chooses to lose future auctions — and therefore make no money at all in exchange fees — in order to punish publishers that take steps to push back against AdX’s anticompetitive advantages.

138. For years, Daily Mail relied on Google’s representations that AdX ran a second-price auction. Daily Mail runs numerous experiments to figure out how to maximize revenue, and those experiments depend on a number of assumptions. Critically, Daily Mail took Google at its word that it operated second-price (and eventually first-price) auctions, never third-price auctions. Had Daily Mail known that Bernanke was in effect, it would have re-evaluated and likely modified its monetization strategy to account for Google depressing its bids even lower than Daily Mail thought possible under prevailing DFP rules.

5. Dynamic Revenue Share (~~2016~~2014 – Present)

134.139. Much like Last Look ~~expanded yet again in 2016, this time in a new form,~~ and Bernanke allow Google to rig AdX’s bids to beat rivals by a penny, Google also has developed a program to manipulate AdX’s revenue share to the same effect. In 2014, Google introduced “AverageDynamic Revenue Share” (also called “~~Dynamic~~Average Revenue Share”), which permits Google to reduce its revenue share when necessary to win an impression, only to increase its fee for less competitive impressions. Google continues to charge its contracted revenue share (typically 20%) on average over the billing period.

135.140. AverageDynamic Revenue Share, like Last Look and Bernanke, operates by trading on rivals’ bid information. For example, if header bidding returns a bid of \$4.00, and the highest available bid in AdX (net of Google’s fees) is \$3.57, AdX can forgo its revenue share

(20%) and bid up to \$4.46. However, because AdX knows the floor is \$4.00, it charges a fee of 10% and wins the auction at \$4.01. Conversely, for the next auction, if AdX clears at \$4.20 (net of Google's fees) and the highest bid from header bidding is \$3.67, Google can increase its revenue share to 30% and win the impression for \$3.68. Google thus wins both impressions and makes \$2.02 (\$0.45 + \$1.57). The publisher, meanwhile, makes \$7.69 (\$4.01 + \$3.68).

~~136.141.~~ Without access to rivals' bids, Google could not selectively modify its revenue share, and would either charge a flat 20% fee or reduce its fee across the board in order to win both impressions. Either way, there is more revenue available for publishers. To take the prior example, if Google keeps its 20% revenue share, it wins only the second impression and makes \$1.05. The publisher makes \$8.20 (\$4.00 + \$4.20). Alternatively, if Google reduces its revenue share to 10%, % for both transactions, it wins both impressions and makes \$0.98 (\$0.45 + \$0.53). The publisher, meanwhile, makes \$8.74 (\$4.01 + \$4.73). In short, by trading on inside information with AverageDynamic Revenue Share, Google can at least double its money at publishers' expense.

~~137.142.~~ AverageDynamic Revenue Share also insulates AdX from price competition and entrenches Google's monopoly in the exchange market. Even if a rival lowers its revenue share across the board, AdX need not respond in kind because it can lower its fee on any particular impression, only to make up for lost revenue by charging a higher fee for less competitive impressions. The result is that AdX can preserve an average 20% revenue share *and* process a greater share of impressions. By contrast, without access to rivals' bids, Google would have to make a choice: compete by lowering its fee overall or preserve the higher fee and lose out to rivals. Either way, the competitive process would work, because impressions would be

routed to the most efficient exchange. AverageDynamic Revenue Share thwarts that market-based allocation.

143. Google introduced Average Revenue ShareGoogle hid Dynamic Revenue Share from publishers for the first two years of its operation. Google began rolling out Dynamic Revenue Share without discussion in 2014. By the fall of 2015, Google had expanded the program to all publishers, but still told publishers nothing about it.

138.144. When Google finally announced Dynamic Revenue Share publicly in 2016, it did so with little explanation. After Daily Mail repeatedly contacted Google for assistance, a Google employee explained in a May 2017 email to Daily Mail that AverageDynamic Revenue Share would not impact Daily Mail's revenue "much one way or another." Google's publicly available website went further and threatened that disabling AverageDynamic Revenue Share would "reduce Ad Exchange yield." Daily Mail enabled AverageDynamic Revenue Share in reliance on such representations. But, for reasons discussed above, Google's representations appear to be false. That is because the upside to the publisher from Google winning the first impression over a rival (\$0.01) pales in comparison to the downside of Google raising its revenue share on the second impression it would have won anyway (-\$0.52). To this day, though, Daily Mail still has no visibility regarding how often Google can capitalize on AverageDynamic Revenue Share to the detriment of publishers. Google does not disclose its per-impression revenue share in the bid-level data available in DFP.

139.145. Google also has told Daily Mail that AverageDynamic Revenue Share operates based on "machine learning" rather than rivals' bid information. But that explanation proves nothing and is misleading at best. No matter how complicated the algorithm, machines have to learn from underlying data. And Google can tailor its revenue share to win impressions

only if it can access information from DFP about rivals' bidding behavior. Google knows as much. Internally, it recognized that Dynamic Revenue Share "makes the auction untruthful as we determine the AdX revshare after seeing buyers' bids." Google documents also reveal that the program did not increase publishers' yield, contrary to its public representations.

140.146. Finally, Google's misrepresentations to publishers regarding AverageDynamic Revenue Share continue to this day. Google's publicly available website now states that "revenue share optimizations" were "paused" in September 2019. That statement is false or at best misleading, as AverageDynamic Revenue Share ~~remains~~remained operative in DFP's user interface.As until at least 2021. While today it appears that Google quietly has removed Dynamic Revenue Share from DFP's user interface, and any mention of Dynamic Revenue Share from its help pages, there is no indication that Google actually has disabled that functionality. In sum, as best any publisher could tell, Google continues to enforce ~~its~~ AverageDynamic Revenue Share ~~feature~~and now has disabled any way for a publisher to shut it off.

6. Viewable CPMs (2017 – Present)

141.147. In October 2017, Google extended its control over the exchange market yet further. AdX began to pay publishers for impressions on mobile apps only if the impression was "viewable" — defined as one pixel of the impression in the device's viewport for at least one millisecond. But Google decided whether to withhold payment only *after* DFP already had allocated it the impression. That meant AdX could "win" an impression and not pay for it, while a rival exchange would have paid regardless of viewability.

142.148. Google told Daily Mail that it was simply catching up to the viewable CPM ("vCPM") industry standard, but that was false. Not one of Daily Mail's significant buyers

bought Daily Mail’s inventory on a vCPM basis. Buyers always had considered viewability *before* setting their bids for inventory, not *afterwards*.

~~143.149.~~ Google also told Daily Mail that AdX’s change to vCPM would have “a near zero effect to revenue.” That also turned out to be false — and substantially so.

~~144.150.~~ The core problem was that DFP could not (and still cannot) distinguish between a traditional CPM and a vCPM. So, if AdX enters a \$1.01 vCPM bid and another exchange offers a traditional \$1.00 bid, DFP will allocate the impression to AdX. But AdX, despite winning the impression, will not actually *pay* for the impression unless it proves to be viewable under the Google standard. In short, Google can take an impression and then skip out on its tab.

~~145.151.~~ Google’s change to vCPMs had a dramatic effect on Daily Mail’s mobile-app revenue. AdX ended up paying for only 20% of the impressions it “won.” And when it did pay, AdX did not pay nearly enough to make up for the impressions where it refused to pay. Ultimately, for 80% of mobile-app impressions that DFP allocated to AdX, Daily Mail would have made more money if the impression had gone to a different exchange.

~~146.152.~~ Daily Mail reported its concerns to Google, which responded that DFP was “working as intended.” Google also tried to reassure Daily Mail that things were “moving in the right direction,” because AdX was winning a higher share of mobile-app impressions.

~~147.153.~~ But far from being the “right direction,” AdX’s growing share of Daily Mail inventory proved the anticompetitive effect. AdX was able to take *more* impressions from rivals despite paying *less* for them. Moreover, because Google alone could win impressions but never pay for them, advertisers optimizing their campaigns — whether automatically or

manually — undoubtedly were incentivized to concentrate more of their spending in Google’s exchange.

~~148.~~154. To level the playing field and account for AdX’s small chance of actual payment, Daily Mail wanted to apply a multiplier to AdX’s bids. For example, if AdX submitted a \$1.00 bid, Daily Mail would have wanted to apply a 0.2x multiplier (accounting for the 20% chance of payment) to convert the vCPM into a “traditional” CPM of \$0.20. That way, a rival exchange could win the impression if it returned a bid of \$0.21 or more. If no rival beat \$0.20, then Daily Mail would sell the impression to AdX in hopes of a 20% chance for a \$1.00 recovery.

~~149.~~155. Multiplying each AdX bid by 20% would have been far from perfect, of course, because AdX’s average payment rate is only a proxy for its likelihood of paying for any particular impression. There always would be the chance that Daily Mail would accept the \$0.21 CPM bid when AdX actually would have paid \$1.01 vCPM. But, in light of the revenue impact, Daily Mail simply could not afford to continue with the Google-imposed status quo.

~~150.~~156. Google refused to allow publishers to apply any discount to AdX’s bids. Instead, Google told Daily Mail that it had to apply a multiplier to *everyone else’s* bids. To extend the prior example, if a non-Google exchange entered a bid of \$0.20, Daily Mail would have to apply a 5x multiplier so that DFP (using Dynamic Allocation) would tell AdX that \$1.00 was the price to beat. That creates the same tradeoff described above: Daily Mail would accept a guaranteed \$0.20 unless Google could provide a 20% chance of a payment greater than \$1.00.

~~151.~~157. Daily Mail has implemented this workaround, but it introduces inefficiencies that have caused Daily Mail substantial financial injury for years. Daily Mail’s multipliers still run the risk of pricing out AdX when it actually would pay for the impression,

and, conversely, they still do not eliminate the risk that AdX will win an impression and then fail to pay. Additionally, it is much more technically cumbersome to apply multipliers across all buyers for mobile-app inventory, rather than to just AdX specifically. ~~Finally, if~~ Google were to extend vCPMs to other inventory, it would be ~~nearly-impossible~~ for Daily Mail to respond. Unified Pricing Rules (see *infra* § III.B.11) have eliminated Daily Mail’s ability to set different multipliers for different buyers of desktop and mobile web inventory.

7. — Unified Auction (2019 — Present)

7. Exchange Bidding & Minimum Bid to Win (2018 – Present)

158. As mentioned above, in 2018, Google publicly launched a server side alternative to client side header bidding called “Exchange Bidding,” later re-named “Open Bidding.” Exchange Bidding permits certain non-Google exchanges (and certain DSPs) to bid against AdX in real-time. Google charges its rival exchanges a 5–10% fee per impression depending on the kind of ad served.

159. Exchange Bidding is designed to maintain AdX’s ad-server and ad-exchange monopolies. Because Exchange Bidding operates on Google’s servers, only AdX has complete insight into the identity of the reader. Other exchanges, meanwhile, are hampered by “user sync” issues that make it far more difficult to understand who the reader is — and therefore submit competitive bids. Rivals are further hindered by Google’s hashing of user IDs. See *supra* § III.B.1.

160. For these reasons, among others, when AdX and rival exchanges compete for the same Daily Mail impression in Exchange Bidding, AdX’s win rate is double the win rate of its rivals. Further, for those exchanges that participate in client-side header bidding and Exchange Bidding, their performance is significantly reduced in Exchange Bidding. Exchanges perform

better client side because, *inter alia*, client-side header bidding is an auction hosted on the reader's browser that does not present the same user sync issues as a server-side connection.

161. Because client-side header bidding remains a more favorable environment for publishers and rival exchanges, and because Google does not want AdX to compete against header-bidding exchanges (even if aided by Last Look and other bid-rigging schemes), Google has set out to "kill" client-side header bidding. Indeed, Google measures Exchange Bidding's success not by the revenue it generated, but by the degree to which it slowed the growth of client-side header bidding. A Google executive cautioned the company's employees: "I would suggest being very careful here what we say to publishers. Remember, [Exchange Bidding] negatively impacting header bidding is a Google desired outcome. Publishers are likely fine with header bidding, they make more money with it."

162. Killing client-side header bidding also serves another Google goal: making sure that client-side header bidding never could be developed into a competing ad server.

163. In order to eliminate client-side header bidding, Google has taken steps to coerce publishers to abandon it for Exchange Bidding. As discussed at length below, Google outright eliminated client-side header bidding on mobile web pages that appear at the top of Google search results. See *infra* § III.C.1. Thus, for publishers' most important source of referral traffic — and for many publishers, the most important source of traffic, period — publishers have few options other than to use Exchange Bidding. Additionally, by limiting DFP's ability to accept bids from client-side header bidding, see *infra* § III.B.10, and by redacting datasets so that publishers could not fully compare the performance of client-side header bidding against Exchange Bidding, see *infra* § III.B.9, Google has manufactured a fait accompli: take Exchange Bidding or use a now-degraded client-side alternative. Finally, in communications with

publishers, including Daily Mail, Google attempted to cajole them into abandoning client-side header bidding. Google told at least one publisher that it needed to limit its participation in client-side header bidding to solve a “strain on” the ad server and improve the publisher’s inventory yield.

164. Among Google’s false promises, it has represented that Exchange Bidders do not benefit from Last Look. But, as originally designed, Exchange Bidding actually *extended* Last Look to rival exchanges that participated through Google’s server-side connection. Further, Exchange Bidding is still plagued by many of the auction manipulations described above (*e.g.*, Bernanke and Dynamic Revenue Share) that are functionally identical to Last Look.

165. In 2019, Google introduced yet another Last Look analog to Exchange Bidding when it rolled out the so-called “Unified Auction.” At the time, Google represented that AdX would move to a first-price auction and promised that no buyer would benefit from any Last Look advantage. Google promised to run a “fair and transparent market for everyone,” in which “[a]n advertising buyer’s bid will not be shared with another buyer before the auction.” Google’s contracts also continued to promise — as they do today — that Google would not inform its bids using publisher-inputted data “that is not generally shared with buyers.”

166. But, as part of the Unified Auction, Google simultaneously introduced a feature called “Minimum Bid to Win.” After an auction concludes, Google now tells the winning bidder, if it is an “Authorized Bidder,” *i.e.*, an exchange or DSP participant in Google AdX or Exchange Bidding, what the minimum price to win the impression would have been. This is *not* merely the price at which the impression sold; rather, Google tells the winning bidder the second highest price that was placed in the auction, *i.e.*, the cheapest price at which the winning DSP

could have won the impression. Minimum Bid to Win thus provides functionally the same information as Last Look: the next highest price to beat.

167. The only difference from Last Look is that Google now knows the minimum winning price immediately *after*, rather than *before*, an auction closes. But that difference is immaterial. DSPs buy impressions by the thousands. The minimum price at which a prior auction could have cleared is an incisive predictor into the minimum clearing price of the next, similar auction. Once an auction closes, authorized bidders can use the next-highest price to inform their bids on thousands of immediately following, highly similar auctions. For instance, Google can use the Minimum Bid to Win from one auction to bid on the next impression *for the same user on the same page*. It is thus immaterial that the buyer does not know a rival's bid before the auction. The effect on competition is functionally the same as Last Look.

168. Daily Mail's experience bears this out. AdX's win margin — *i.e.*, the percentage by which AdX outbids its next highest competitor — is *half* the win margin of non-Google exchanges participating in Exchange Bidding. Put another way, when Google wins, its bids are suspiciously close to the next highest bidder. The upshot is that Google is continuing to trade on inside information despite its assurances to the contrary.

169. Since introducing Minimum Bid to Win, Google only has continued to develop the program and enhance its anticompetitive effect. By exploiting Google's access to publishers' user IDs and rivals' historical bids, AdX nearly has perfected its ability to use Minimum Bid to Win to outbid rivals by a penny. As one Google planning document states: "If we knew our competitor's bid exactly, we can simply bid a cent above that[.] But we don't have this information before the auction, so we need to predict [the] competitor's bid."

170. At bottom, Exchange Bidding was built on Google’s core business model: misuse rival bidding information to defeat a competitive auction for impressions among exchanges.

8. Projects Poirot and Elmo (2018 – Present)

171. In yet another move to kill client-side header bidding, Google designed two secret programs to ensure that its DSP for large advertisers, DV360, offered depressed bids on non-Google exchanges when they participated in header bidding. If the exchange was not participating in client-side header bidding, by contrast, DV360 returned higher prices. In that way, Google coerced exchanges to forgo header bidding, and it coerced publishers to sell inventory either to AdX or the preferred non-Google exchanges participating in Exchange Bidding. Google named its two “[a]uction [d]efenses” “Poirot” and “Elmo.”

172. Poirot worked by detecting whether the exchange requesting a bid from DV360 was running a second-price auction. Because header-bidding exchanges were running first-price auctions, Poirot deduced that bids from first-price exchanges were destined for client-side header bidding. Thus, Poirot instructed DV360 to return competitive bids only for second-price auctions.

173. Poirot lost Google revenue in the short run, because DSPs charge a revenue share much like exchanges. So, no profit-minded DSP would want to deflate its bids. But Google was willing to sacrifice short-term profits because Poirot harmed header-bidding exchanges even more. According to Google, Poirot caused a “revenue drop in the range of 20-30%” for header-bidding exchanges, while DV360 lost 1.9% of its revenue. Ultimately, Poirot accomplished its evident goal, as DV360 spent “7% more on AdX and reduc[ed] spend on most other exchanges.”

174. Similarly, Elmo worked by detecting when a single impression was being routed to multiple exchanges at the same time. Because client-side header bidding solicited bids from multiple exchanges simultaneously, Elmo was able to identify when an impression was being

routed through header bidding. With Elmo, DV360 reduced its spending on exchanges that were suspected of meaningfully engaging in header bidding.

175. The program was hugely successful. For example, Elmo reduced DV360 spending on the largest header-bidding exchange by 25%, while increasing DV360 spend on AdX by 7.8%. An internal Google document revealed that, by July 2018, Elmo had reduced DV360 spend across all of Google’s major exchange rivals by 44%.

176. Together, Google estimates that Poirot and Elmo cost rival exchanges 21% of their revenue. That made rival exchanges less viable options for publishers and kept client-side header bidding from developing into a competitive threat to Google’s ad-server monopoly.

9. Google Redacts Datasets (2018 – Present)

177. Google also cements its market power and obfuscates its anticompetitive conduct by redacting key data from the auction records it provides to its ad-server customers.

178. For example, when the winner of the client-side header bidding ultimately won an impression, Google used to allow publishers to compare the winning bid to losing bids from other exchanges, including AdX. That information allowed publishers to assess the incremental benefit from an exchange’s performance in header bidding, which helped them decide how to manage the header-bidding auction — including which exchanges to invite, how many to invite, and how long to let the auction proceed.

179. In 2018, however, Google redacted two DFP data fields (known as “KeyPart” and “TimeUsec2”) so that publishers no longer can compare impression-level and bid-level data between header-bidding exchanges and Exchange Bidding exchanges, including AdX. The upshot is that publishers now have substantially less insight into client-side header bidding’s comparative advantage, and therefore have greater difficulty designing client-side header bidding to maximize revenue.

180. In fact, Google’s decision to erect a wall between bid-level and impression-level data means that publishers cannot even be sure whether the demand source that ultimately wins an impression was the highest bidder. In that way, Google makes it substantially more difficult for publishers to catch and react to its anticompetitive conduct.

181. Google’s redacting of DFP data is irrational but for its anticompetitive effect, because no publisher ad server in a competitive market would reduce the amount of information available to publishers. Ad server data is an important source of truth for publishers’ operations, and almost all revenue-related advertising decisions rely on this data. Accordingly, data redactions, hashing, and similar conduct make the ad server less valuable to publishers.

10. Google Manipulates DFP to Artificially Deflate Bids from Rival Exchanges (2017 – Present)

182. Apart from rigging its own bids, Google also deflates *rivals*’ bids to keep them from winning impressions for which Google otherwise would not be competitive. Google implements this scheme by manipulating the auction rules in its monopoly ad server, DFP.

183. When a rival exchange bids on publisher inventory and does not participate in Exchange Bidding, DFP does not allow the exchange to compete on the actual price it bid. Rather, publishers must input “line items” corresponding to potential bids for inventory, and rival bids are rounded *down* to the nearest line item. So, if a publisher receives a header-bidding exchange bid of \$4.29, but only has a pre-existing line item with a price of \$4.20, then the ad server rounds down the bid to \$4.20. To counteract this inefficiency, the publisher must create a large number of line items (*e.g.*, line items with corresponding prices of \$4.20, \$4.21, \$4.22, \$4.23, \$4.24, etc.) to capture a live, competitive bid coming from a rival exchange.

184. To make rival bids less competitive, in 2017, Google purposefully started to limit the number of line items available to publishers. When publishers, including Daily Mail,

requested that Google increase the number of line items so that they could receive actual bids from rival exchanges, Google rejected their requests or would provide only temporary and limited increases. Google documents make it clear that Google’s intent was to keep artificial line item caps in place as a “tool we have to fight [header bidding].”

185. Google also limited the number of line items to pressure publishers to switch to Exchange Bidding, where Google allows exchanges to submit live bids. As one employee explained to others: “We need to push these pubs to using Jedi [*i.e.*, Exchange Bidding] – if imposing more limits pushes them more to Jedi – then we should keep those limits in place.”

186. There is no technological reason for Google’s caps on line items. DFP would allow for more line items but for Google’s artificial caps. At one point, Daily Mail was running over 300,000 line items within its publisher ad server and encountered no technical issues.

187. Google’s limits on line items are also irrational but for their destruction of competition from rival exchanges. In a competitive market, an ad server would maximize the value of bids that a publisher receives for its inventory. That would make publishers more money and therefore make the ad server more valuable. Recognizing as much, the now-defunct OpenX ad server incorporated client-side header bidding through a single line item, removing altogether the need for the multiple line-item setup. But because publishers cannot leave DFP for the reasons already discussed, OpenX’s ad server had limited opportunity to gain share against Google’s monopoly and exited the market in 2019.

11. Unified Pricing Rules (2019 – Present)

152-188. Until 2019, publishers did have one tool (albeit an imprecise one) to attempt to correct for AdX’s Last Look, AverageDynamic Revenue Share, and related advantages. Publishers could set a unique price floor for AdX (and for each participating buyer in AdX), which established a new minimum price (other than the next best price) that AdX

would have to meet in order to win an impression. With higher price floors, publishers could force Google to submit bids that were substantially higher, rather than just one penny higher, then the next highest available bid.

~~153.189.~~ For example, if the highest bid from the DSPs participating in AdX was \$6.00, but AdX bid \$4.01 in light of Last Look, that meant there was \$1.99 on the table that AdX took from Daily Mail. If Daily Mail set a \$6.00 price floor, though, AdX could win the impression only if it met that floor — *i.e.*, only if it paid the full \$6.00, which a participating DSP already had decided was the value of the impression. Likewise, with a \$6.00 floor, AdX could not increase its revenue share yet continue to win the impression.

~~154.190.~~ For a while, Daily Mail found that setting higher prices floors for AdX caused AdX to return higher bids and ultimately led to higher revenue. Among other approaches, Daily Mail set a floor for AdX as some multiple of the highest bid obtained from header bidding. That AdX bid more vigorously in response to price floors indicated that, absent the floors, AdX was exploiting its myriad advantages, including Last Look and ~~AverageDynamic~~ Revenue Share. Floors would not impact AdX's bidding behavior if it already offered its most competitive bid.

~~155.191.~~ But differential price floors were not a panacea and never could have substituted for a fair auction in the ad server. That is because a publisher could not know, when setting a floor, what the maximum available bid from AdX would prove to be. The floor was simply the publisher's best *guess* about what AdX would be willing to pay if it had to compete without access to inside bid information. Thus, any floor risked not being high enough and leaving money on the table, or being too high and pricing AdX out of the auction.

~~156.192.~~ Despite their shortcomings, targeted price floors meant that AdX had to compete more vigorously for impressions at least some of the time, which undercut its business model of trading on inside information to buy publisher ad space on the cheap. But Google eventually enacted new auction rules to eliminate even the limited competition introduced by publishers.

~~157.193.~~ In 2019, Google introduced another change to DFP's auction mechanism called the "Unified Auction." Google represented that AdX would move to a first-price auction without Last Look, and that differential price floors no longer were necessary or useful because AdX always would return its best available price regardless of the floor. As Google put it in a May 2019 "Best Practices" guide it sent to publishers: "In a first price auction buyers pay what they bid, therefore In 2019, as part of the Unified Auction, Google introduced "Unified Pricing Rules" ("UPR"). Google asserted that, because it was moving AdX to a first-price auction, "floor prices no longer serve the purpose of closing the gap between the highest bid and the second bid." So, with a rule change called "Unified Pricing Rules" ("UPR"), Google disabled publishers' ability to set different price floors among and within exchanges. Now, if a publisher sets a price floor, it must apply equally to all exchanges and buyers in the market for the publisher's inventory. The result, in Daily Mail's case, for most publishers is a price floor several times lower for AdX than what AdX had to clear previously.

~~158.194.~~ Google's explanation for the Unified Auction, including justification of UPR, was disingenuous in at least three ways. First, if differential price floors truly made no difference to Google, there would have been no reason to eliminate them. But they *did* make a difference — as the U.K. Competition & Markets Authority found in its investigation, Google enforced UPR because it was dissatisfied with publishers setting unique price floors that made

AdX compete. Second, without floors, Google still does not offer its best price for inventory.

For example, Google *further* can exploit AverageDynamic Revenue Share because AdX now faces a much lower risk of falling below the publisher's floor if it increases its revenue share.

~~Third, far from eliminating Last Look, Google introduced a new version called "Minimum Bid to Win." After an auction concludes, Google now tells the winning bidder, if it is an "Authorized Bidder," what the second highest price was. And Google's Minimum Bid to Win, particularly as more recently developed by Google, operates to permit AdX to win impressions for less than the price the advertisers it represents would be willing to pay. Differential floors remain valuable because they would allow publishers to counteract that conduct and force AdX to compete more vigorously for impressions.~~

~~159. — Minimum Bid to Win, like Last Look, permits Google to outbid rivals by a penny. While Google theoretically shares the Minimum Bid to Win with Authorized Buyers participating in Open Bidding—which include Google's DSPs (DV360 and Google Ads) and a small cohort of other exchanges and DSPs—Google is the only buyer that actually can access the rival bid information. That is because Google designed Minimum Bid to Win as a "non-standard protocol" that other Authorized Buyers cannot reasonably use.~~

~~160. — It also matters little that Google can access the Minimum Bid to Win only after the auction closes. Once an auction closes, Google can use the next highest price to inform its bid on millions of immediately following, highly similar auctions. For instance, Google can use the Minimum Bid to Win from one auction to bid on the next impression for the same user on the same page. The effect on competition is functionally the same as Last Look.~~

~~161.195. —~~ The data prove this up that UPR has done substantial harm to Daily Mail.
 Since Google rolled out the Unified Auction introducing UPR, non-Google exchanges and DSPs

have not meaningfully changed their bidding behavior. But ~~Google's DSPs have~~ AdX has more than tripled ~~(and at times quadrupled and quintupled) their~~ its share of Daily Mail's inventory.

Moreover, at the same time, Google's average price paid has declined by more than 70%.

Below, Figure 2 depicts AdX's increasing share of Daily Mail inventory. Figure 3 depicts AdX's radically reduced bids.

Figure 2: AdX Share of Daily Mail Inventory (2019-2022)

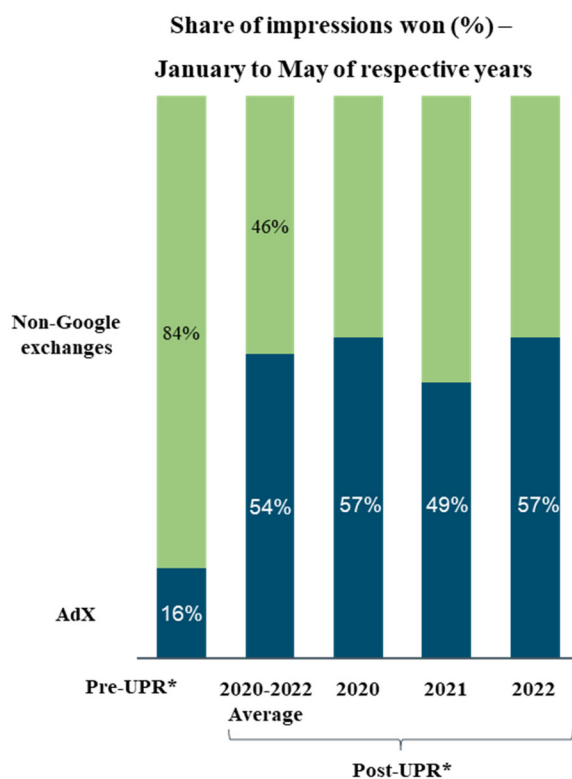
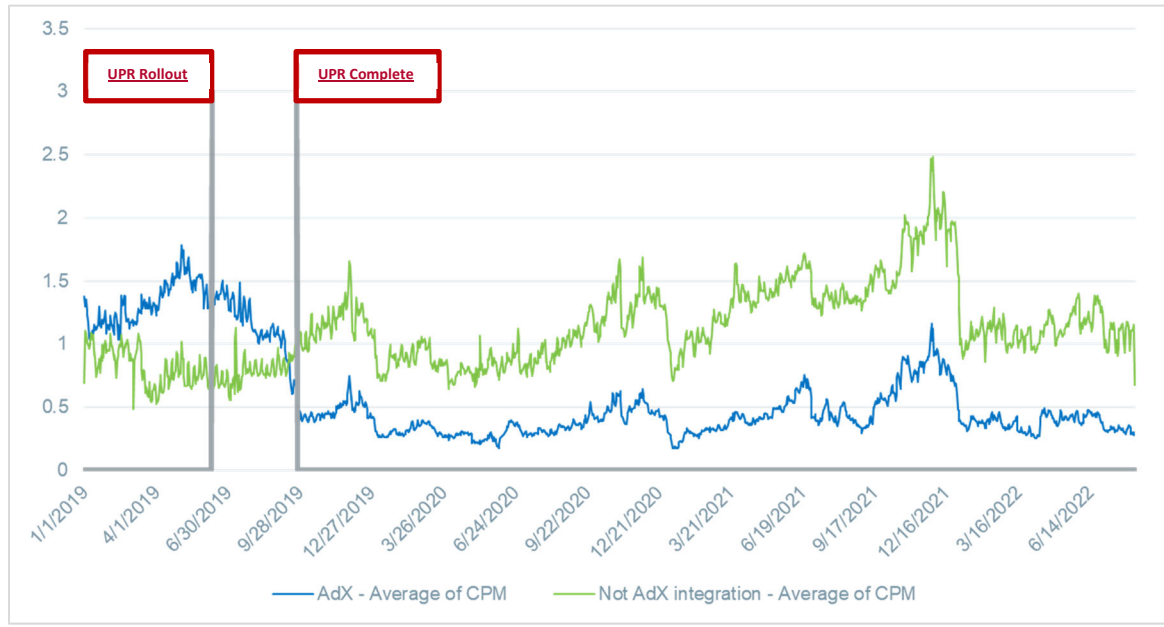


Figure 3: AdX CPMs (January 2019 – August 2022)

~~162.196.~~ Daily Mail now fills 10% more of its inventory than before UPR, but that offers no benefit to Daily Mail. At AdX’s severely depressed prices, it often would be better to serve a house ad or nothing at all, in order to increase page speed. Nor does the modest increase in fill rate cover the precipitous decrease in prices from ~~Google Ads and DV360-AdX~~. The impact of the Unified Auction and UPR is clear: Google’s DSPs buy a growing share of Daily Mail’s inventory for ever-cheaper prices. And it can do so because it is now *better* able to outbid rivals by a penny. The market clearly is not working — Google is buying more ad inventory but paying less for it.

~~163.197.~~ Google made misrepresentations to publishers to enforce UPR. For example, in the May 2019 “Best Practices” guide, and again in a September 2019 email, Google represented to Daily Mail that applying multipliers to non-Google bids — one potential workaround to the unified floors — would not “maximize yield.” Further, in the “Best Practices” guide, Google actually *proposed* a different workaround to the unified floors (using

“house line items” in DFP), only to kill it weeks later once publishers started to use it. In line with Google’s misrepresentations, Daily Mail has not adopted multipliers, and, despite exploring the “house line items” proposed by Google, Daily Mail never had the opportunity to implement them.

~~164.—With the Unified Auction, Google has done even more harm to publishers. Google has fortified AdX’s advantages and eliminated the only tool publishers had to counteract them—even tools that Google first proposed. Google has shut off all paths of escape.~~

~~7.—Reserve Price Optimization (2016—Present)~~

~~167.—Before the Unified Auction, Google introduced a feature in AdX called “Reserve Price Optimization” (“RPO”), also known as “Optimized Pricing.” RPO is a cookie-based algorithm that Google uses to modify publishers’ price floors, ostensibly to maximize publishers’ revenue. Google offers no transparency into how RPO operates, and it gives publishers no data to assess whether Google’s secret floors perform better than the floors set by publishers. In effect, RPO co-opts publishers’ ability to set prices for their own inventory.~~

~~168.—Google originally applied RPO to publishers’ AdX and buyer-specific floors. Because Google hashes user IDs for rival exchanges and DSPs (see supra ¶¶ 101–104), Google alone can access the cookie-based data necessary to create and sustain this kind of optimization algorithm. The result is that non-Google exchanges are less able to compete for inventory, which allows Google to intermediate more transactions at higher prices.~~

~~169.—Since the Unified Auction, Google has eliminated publishers’ ability to set exchange and buyer-specific price floors. But, with RPO, Google *itself* continues to set a unique price floor for AdX. This enhances AdX’s artificial advantage over other exchanges. Google now has even wider latitude to set its own price floor, while publishers cannot set floors for other~~

~~exchanges or buyers to encourage more competitive bids through those channels. Diminished competition from rival exchanges harms publishers, as AdX controls a growing share of impressions and experiences limited competitive pressure to reduce its revenue share.~~

~~7. Privacy Sandbox: Google Interferes with Advertising Data~~

~~172. As antitrust scrutiny of Google has increased in the United States and globally, Google is planning further to monopolize the exchange market. Google has announced the plan but has not yet implemented it. By no later than the end of next year, Google plans to modify its Chrome browser—which controls 70% of global online traffic—to block publishers and advertisers from using the type of cookies (e.g., third-party cookies) that they rely on to serve effective advertising to users. At the same time, Google will move key ad-serving functionality from the ad server into the browser, where Google can exert even greater control. Google calls this set of publisher-harming proposals the Orwellian term: “Privacy Sandbox.”~~

~~173. Privacy Sandbox will disrupt rival exchanges’ and their buyers’ access to user data, while Google will continue to acquire user data at a growing and unparalleled scale. Google’s user data is unrivaled not only because of Google’s access to its owned and operated properties and dominant Chrome browser, but also because Google already has engaged in widespread user tracking with third-party cookies for more than a decade. Now that Google has acquired massive quantities of user data and associated them with individual profiles, Google is closing the door on third-party cookies before any rival could acquire data at scale and develop the sophisticated tools necessary to analyze and use that data. It’s the sixth inning of the game, Google is ahead, so Google says “game over.”~~

~~174. Once Privacy Sandbox is live, only Google will be able consistently and predictably to offer effective data to advertisers, and therefore advertisers will move their ad~~

~~spending away from rivals and toward Google's DSPs and exchange. Indeed, even though Privacy Sandbox is supposedly more than a year away, advertisers are already in the process of shifting their spending from competing DSPs and exchanges to Google's tools.~~

~~175.—The public markets also recognize the harm to competition. When Google announced its schedule for disrupting cookie-based advertising, stock prices for rival exchanges and DSPs dropped by more than 20%. Thus, by blocking third-party cookies, and through other proposals in Privacy Sandbox, Google inserts itself in the middle of publishers' business relationships with non-Google advertising companies, cutting off publishers' ability to transact with rivals without going through Google.~~

~~176.—Google's justification of Privacy Sandbox as privacy enhancing is not credible. Google will not actually stop user profiling or targeted advertising; rather, it will put the Chrome browser at the center of tracking and targeting. For example, Google plans to assign every internet user who browses through Chrome or uses a Google-owned website to a "Federated Learning of Cohorts," or "FLoC," of similarly situated users. Google then will amass and control data about the FLoC and offer it to advertisers for targeted advertising. No one other than Google will know how and why a user ended up in a particular FLoC. In effect, Google is assigning a behavioral credit score to every internet user in the world. Google FLoCs may reveal which consumers are vulnerable to various types of discrimination and predation, and may have the effect of limiting who gets to see job postings or loan offers. Never before has a single company been able to study, catalog, and sell most of the world's internet-accessing population.~~

198. Apart from shutting down publishers' last path of resistance against Last Look and its analogs, UPR also puts many rival exchanges at a price disadvantage. For example, if differential floors were available, publishers could adjust floors for non-Google exchanges

downward by 5% to account for the 5% Exchange Bidding fee paid by those non-Google exchanges. That could be in a publisher's interest for any number of reasons, including to diversify its demand partners or to secure what it believes is a higher quality ad from a different exchange. But now, with UPR, publishers cannot account for the Exchange Bidding fee. That means rival exchanges in Exchange Bidding must offer Google not only their best price for inventory, but rather their best price *plus* a 5% surcharge. While publishers and rival exchanges could avoid that tax by transacting in client-side header bidding, as discussed above, Google has taken numerous steps to disable that service.

199. More recently, Google has continued to develop UPR to the disadvantage of publishers and rival exchanges. Google now promotes a program called "Optimized Floor Prices" — also called "Let Google Optimize Your Floors" — as a purported replacement for differential floors. Google says that the program uses "machine learning" to "set floor prices per-query that maximize yield." But, as with Google's other promises of maximized yield, the data do not bear out that claim. For Daily Mail, Optimized Floor Prices allowed AdX to win a greater share of Daily Mail inventory but produced 2% *lower* revenues as compared to the impressions sold with no floor at all. Google tried to obscure this hit to revenue by lying to Daily Mail that Optimized Floor prices actually increased revenue by 11%. That was false.

200. Ultimately, UPR is irrational but for its destruction of competition. In a competitive market, no ad server would limit a publisher's ability to set prices — particularly based on the promise that bidders for inventory are competing fairly. Publishers value maximum flexibility to secure the highest prices for inventory.

C. Google Abuses its Search Monopoly to Monopolize Ad Exchanges

~~178-201.~~ Google also wields its monopoly in general search services to force publishers to sell growing shares of their ad inventory through AdX. If publishers do not meet Google's sales quotas, such as their temerity to seek more bids or try to control their own pricing, Google punishes them on mobile and desktop search rankings. Manipulating search traffic is Google's most powerful tool to coerce publishers, because more traffic — and therefore more page views and impressions — is typically more valuable to a publisher than even substantial improvements in the price a publisher can obtain for existing inventory.

1. Accelerated Mobile Pages (2016 – Present)

~~180-202.~~ Over the past several years, internet users have consumed a growing share of news content on mobile devices. Today, mobile browsing accounts for 70% of all Daily Mail page views. And, among those mobile visitors, over 20% arrive at Daily Mail content from a Google page. As a result, Google has been Daily Mail's largest source of mobile referral traffic. Google's mobile search monopoly gives Google power — Google can punish publishers with its search results because losing traffic from Google users significantly harms their business.

~~181-203.~~ In 2016, Google introduced a "News Carousel" to the top of its mobile search results page. The Carousel is a rolling banner at the top of the page that features news stories in response to a user's search. Because the Carousel is placed at the top of the page, it has displaced the traditional "organic" links that once appeared in the viewport on a smartphone. To reach those links, a user must now scroll past the Carousel and other content on the page. Few users do so. Because Daily Mail cannot forgo the significant slice of Google-referred readers, Daily Mail must accede to whatever terms Google requires to appear in the News Carousel.

~~182.204.~~ The News Carousel comes with strings attached. Since its inception, Google has permitted content to appear in the News Carousel only if publishers adopt the “Accelerated Mobile Pages” (“AMP”) page format. Google since has required AMP for other Google products that drive traffic to Daily Mail, such as Google Discover. While Google billed AMP as an open-source project, it was and remains controlled by Google. Google registered and still owns AMP’s domain (ampproject.org), and it controls the foundation currently in charge of AMP. While AMP was being developed, Google had all decision-making authority.

~~183.205.~~ There is no significant technological benefit to AMP — it is simply an HTML webpage that has been stripped of any third-party script (including JavaScript). Instead, AMP limits a publisher’s expressive creativity and degrades the user experience. AMP pages are not compatible with infographics and other interactive features, resulting in less user engagement.

~~184.206.~~ The most immediate competitive significance of Google’s banning third-party script is that AMP pages are incompatible with client-side header bidding. The result was, initially, that only AdX could bid in real time for Daily Mail’s AMP inventory. AdX won virtually all impressions on Daily Mail’s AMP pages, and it paid significantly less when compared to the same content appearing on Daily Mail’s non-AMP mobile pages. Daily Mail had no recourse, though, because it had to adopt AMP lest it lose critical search traffic. That left Daily Mail with two bad options: (1) forgo AMP and lose search traffic, or (2) adopt AMP, reject client-side header bidding, and sell effectively all AMP ad space through AdX at reduced prices.

~~185.207.~~ After 18 months selling inventory almost exclusively through AdX at depressed prices, Daily Mail developed a workaround to introduce “remote.html” client-side

header bidding on AMP pages. The results of more competition were favorable — AdX’s share of Daily Mail inventory plummeted and revenue increased correspondingly.

186-208. Yet, less than a year after Daily Mail introduced remote.html client-side header bidding, Google disabled it. In its place, Google introduced a server-side substitute called “Real Time Config” (“RTC”). Google also ~~offered~~imposed a second server-side solution at the time called “Exchange Bidding” ~~(now branded as Open Bidding).~~ described above (*supra* § III.B.7). Google was aware that that Daily Mail was seeing large revenue increases using a rival’s header-bidding solution, and Google disabled remote.html to address this competitive threat.

187-209. Both RTC and ~~Open~~Exchange Bidding are designed to insulate AdX from competition. They permit fewer than half as many exchanges to compete compared to client-side header bidding. And, because RTC and ~~Open~~Exchange Bidding operate on server-side connections, rival exchanges (but not AdX) are hampered by “user sync” difficulties that make it harder for their advertisers to identify the reader. That often means significantly depressed bids from non-Google exchanges. AdX, by contrast, is the only exchange that operates at full capacity.

210. To this day, AMP remains completely incompatible with client-side header bidding, meaning that publishers can sell inventory only in environments that favor Google and limit the number of exchanges available to bid. In that way, AMP is even worse than Google’s capping of line items. See *supra* § III.B.10. While Google’s line-item caps depress rival bids, Google’s abuse of the AMP platform eliminates them entirely. Google thus has eliminated exchange rivals on AMP pages not by building a better exchange, but rather by using its

dominant position in general search services to force publishers to adopt a webpage format that limits competition.

188-211. Google's control over ad sales on AMP causes substantial injury to Daily Mail. With less competition, Daily Mail generates less revenue from AMP than traditional mobile pages, and for years AdX has purchased a higher share of impressions. Google was aware that AMP pages were significantly underpaying publishers, including Daily Mail.

189-212. Google offers one justification for AMP's format: faster page load speeds. But that justification is pretextual. AMP pages load faster on a Google search results page only because Google *pre-loads* them once a user runs a search. Daily Mail could design a webpage that loads just as quickly as an AMP page and remains compatible with client-side header bidding, if only Google would pre-load it. Yet, Google offers pre-loading only to AMP, so that Google can continue to require publishers to adopt the AMP format. The result is that AdX does not have to compete as vigorously for publishers' ad inventory.

2. Google Manipulates its Search Results to Punish Publishers

191-213. Google regularly modifies the search results page and algorithm for its monopoly search engine. Typically, these modifications are made unannounced and with no transparency, leaving publishers with little insight into which winners and losers Google picks on the internet.

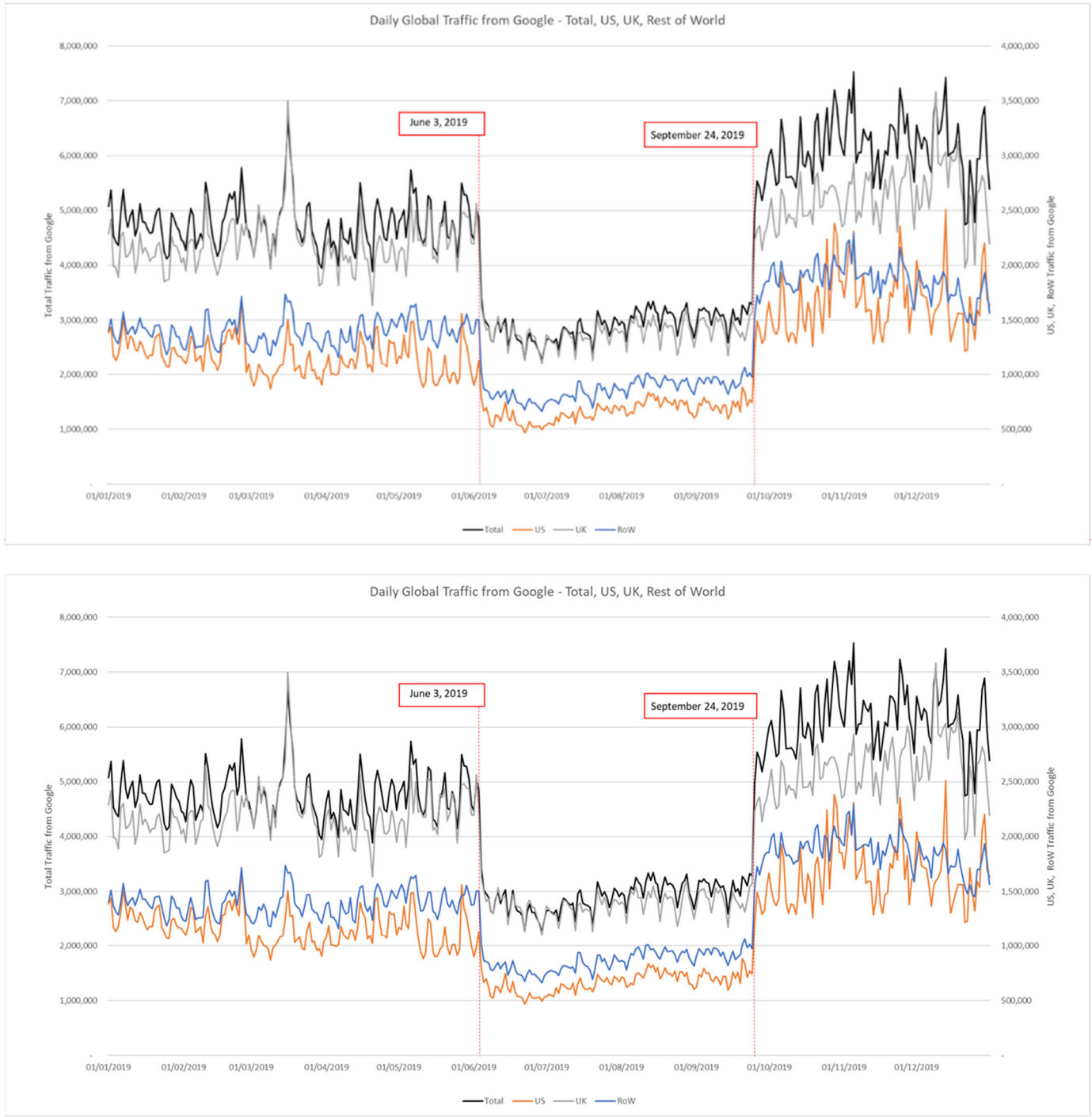
192-214. For years, Google substantially has eroded Daily Mail's search traffic. For example, in late 2017, Daily Mail's U.S. search traffic fell by over 20%. And, in March 2018, Google depressed Daily Mail's U.S. traffic yet again, this time by nearly 40%.

193-215. Google's several decisions to steer search traffic away from Daily Mail had no legitimate business justification. Daily Mail's content, which Google had featured

prominently before, remained relevant and highly demanded by internet users in the United States and worldwide. Daily Mail repeatedly engaged with Google concerning its declining search traffic, and Google assured Daily Mail that its monopoly search engine was operating under one basic principle: to display the most relevant content to readers on the internet.

~~194~~216. However, on June 3, 2019, Google punished Daily Mail yet again. Google rolled out a “Core Algorithm Update,” and, almost immediately, Daily Mail saw its search traffic plummet. Daily Mail lost *half* of its Google search traffic *in a single day*. Other publishers — including Condé Nast, Prevention Magazine, the New York Times, NFL.com, and others — also saw significant drops in visibility and traffic.

~~195~~217. For Daily Mail, that precipitous drop in search traffic persisted for more than three months until, on September 24, 2019, Google restored Daily Mail’s search traffic as quickly as it disappeared — but still below the levels it had seen in years prior.

Figure 2: Traffic Data from June 3, 2019 Core Algorithm Update

196-218. Daily Mail informed Google personnel at the highest levels of the inexplicable and sustained drop in search traffic. Daily Mail had not changed its content or made

any other changes that could explain being shut off from Google search overnight, or being restored just as quickly in late September 2019.

~~197-219.~~ As before, Google offered no explanation. Google repeatedly told Daily Mail there were no issues with the search algorithm. Google also assured Daily Mail that it was not being targeted among its peers. But that was simply untrue. Google was indeed targeting certain publishers: those that made AdX compete more vigorously for impressions.

~~198-220.~~ As discussed (*see supra* ¶¶ ~~139-143~~ § III.B.11), Daily Mail had engaged in aggressive flooring to get AdX to return higher bids for its inventory. Daily Mail had experienced some success — because of Daily Mail’s floors, AdX offered higher bids and won a smaller share of Daily Mail’s inventory. For other publishers, AdX won far more impressions at significantly reduced prices.

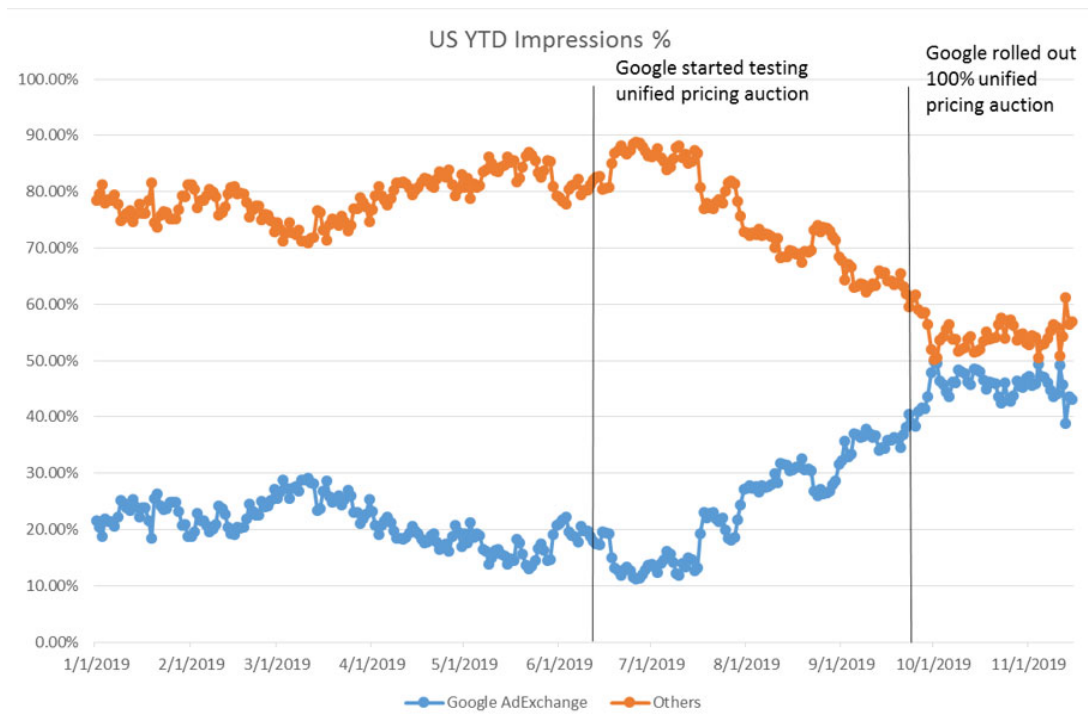
~~199-221.~~ Google repeatedly complained to Daily Mail about its flooring strategy, but Daily Mail explained (in great detail) that flooring Google led to higher revenue.

~~200-222.~~ Unable to convince Daily Mail, Google punished it instead. With the June 2019 Core Algorithm Update, Google shut off Daily Mail’s search traffic one week before it began enforcing UPR across publishers’ inventory, and it restored search traffic precisely one day after UPR was fully effective. The result of UPR, as discussed, was that AdX could intermediate a greater share of Daily Mail’s inventory at much lower prices. Thus, Google punished Daily Mail on its search results because Daily Mail’s pages were less profitable to Google than other websites. Google then restored search traffic once UPR eliminated differential price floors and forced Daily Mail to sell more inventory to Google on the cheap.

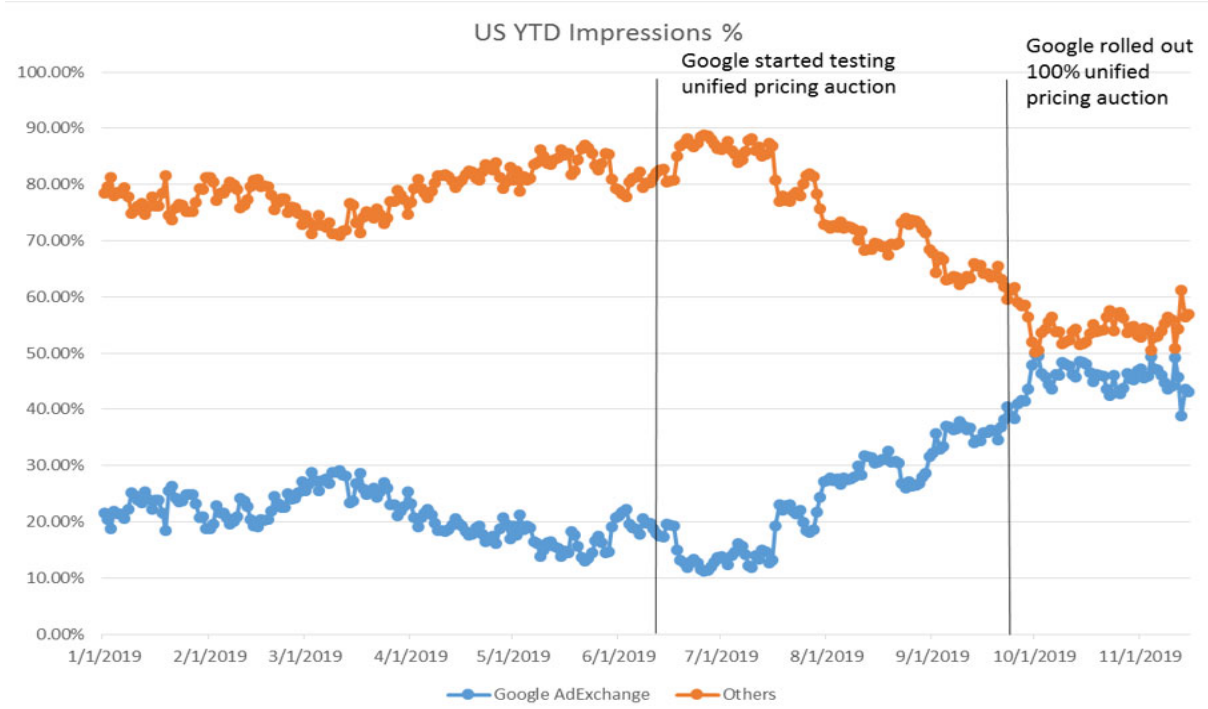
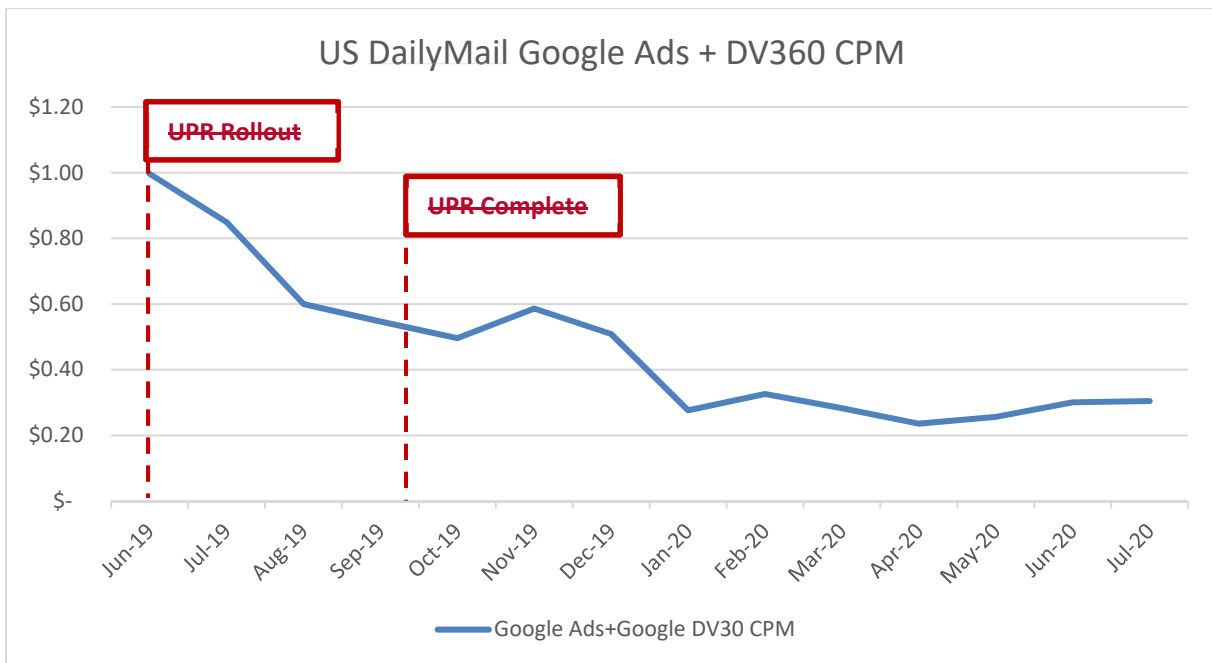
~~201.~~—The data prove this up. As shown in the ~~graph~~graphs below, AdX’s share of Daily Mail’s inventory increased, and rival exchanges’ share decreased, precisely in line with the

rollout of UPR and the June 2019 Core Algorithm Update. AdX had a roughly ~~20~~16% share of Daily Mail's impressions before the Core Algorithm Update in early June 2019, only to more than ~~double~~triple its share by late September.

Figure 3: AdX Share of Daily Mail Inventory (2019)



215-223. *See Fig. 4.* Moreover, at the same time Google was increasing its share of Daily Mail's inventory, Google was decreasing the price it paid for that inventory by roughly 50%. *See Fig. 5.*

Figure 4: AdX Share of Daily Mail Inventory (2019)**Figure 5: Google Ads & DV360 CPMs (June 2019 – July 2020)**

~~216-224.~~ The June 2019 algorithm update was not an isolated event, even if it was the most dramatic punishment Google inflicted on Daily Mail and others. Google’s other updates to its monopoly search engine likewise disciplined publishers for making AdX compete. For example, Daily Mail introduced its AdX price floors in April 2017, mere months before Daily Mail’s traffic declined in the fall of that year. Further, from mid-2017 through spring 2018, Google rolled out ~~OpenExchange~~ Bidding, which Google had designed to neutralize client-side header bidding. But Daily Mail continued — and continues to this day — to use client-side header bidding at higher rates than ~~OpenExchange~~ Bidding, and for an increasing number of non-Google exchanges. Accordingly, Google punished Daily Mail in its search rankings again in March 2018, and such punishment persists to this day. Indeed, since the beginning of 2021, Daily Mail’s U.S. search traffic has fallen by more than 50%, rivaling levels not seen since the 2019 algorithm update. ~~In short, Google wields its monopoly search engine to entrench its ad-tech dominance.~~

~~225.~~ For many years, Daily Mail could not fully appreciate Google’s tying of search rank to AdX sales because Google never has explained the rationale for any of its algorithm updates. Daily Mail thus had no choice but to take Google at its word that “relevance” — not revenue — was the sole driver behind search rankings. Today, however, Daily Mail lives in persistent fear that any effort to increase revenue at Google’s expense will lead to further punishment on Google search. Thus, while Google has manipulated many auction rules to counteract publishers’ efforts to introduce competition, it wields its search cudgel in a yet more pernicious way — to ensure that publishers do not even try to create a competitive marketplace.

IV. ANTICOMPETITIVE EFFECTS

~~217-226.~~ Google’s unlawful conduct has resulted in significant anticompetitive effects in the markets for publisher ad serving and ad exchanges. By thwarting competition for

publisher inventory, Google has reduced the value of publishers' ad space and thereby undermined investment in online content. That chronic underinvestment has led to less online content, fewer impressions generated, and therefore reduced output in the ad-serving and exchange markets. Additionally, advertisers are deprived of more and higher quality ad space to place ads, and users miss out on higher quality news content and more relevant advertisements.

218-227. Daily Mail, as a direct customer of DFP and AdX, has suffered substantial economic harm as a direct and proximate result of Google's unlawful conduct. AdX has capitalized on Last Look, Minimum Bid to Win, Unified Pricing Rules, and other advantages to obtain subcompetitive prices for Daily Mail's inventory. The result is less Daily Mail content and fewer, lower quality impressions for advertisers to purchase on Daily Mail's webpages.

A. Publisher Ad Servers

220-228. Google substantially has increased barriers to entry in the market for publisher ad servers, in large part by tying AdX to DFP. Any entrant into the publisher-ad-serving market now must be able to offer an equally powerful ad exchange in order to encourage publishers to switch publisher ad servers. Such two-level market entry is all but impossible, especially for an entrant that lacks search-derived demand that it can lock into its ad exchange.

221-229. The anticompetitive effect of Google's conduct on the publisher-ad-server market can be seen by the exit of competitors and limited entry over the past decade. Several large ad-tech firms used to offer publisher ad serves, including substantial competitive offerings from Yahoo!, AppNexus, and OpenX. Today, few competitors to Google remain in the market for publisher ad servers. The Yahoo! and OpenX ad servers were shuttered in 2019, and AppNexus (since rebranded as Xandr) faces an uncertain future. Although Xandr was acquired by Microsoft in June 2022, few publishers have adopted Xandr's ad server, in large measure

because switching would require forgoing live AdX demand. Meanwhile, there have been no new entrants into the publisher-ad-serving market for many years.

222-230. Google's monopoly control over ad serving permits Google to depress prices for publisher inventory below competitive levels. Google systematically routes publisher inventory to its own exchange at the expense of publisher revenue, and publishers have little to no recourse. Publishers have no power to negotiate the terms of their ad-serving agreements, and they have little ability to change the auction rules in DFP. Indeed, each time publishers find a way to work around Google's newest anticompetitive move — *e.g.*, price floors for AdX post-UPR, client-side header bidding on AMP pages — Google quickly finds a way to kill it.

223-231. Daily Mail, as a user of DFP, has suffered directly as a result of Google's anticompetitive conduct. DFP thwarts competition for Daily Mail's inventory and preferentially routes that inventory to AdX, even though a fair, real-time auction would produce higher publisher revenue, greater investment in content, more impressions for sale, and ultimately more and better content for Daily Mail's millions of readers.

232. Google's conduct was intended to cause, and did cause, a direct, substantial, and reasonably foreseeable effect on the United States market for publisher ad servers, which in turn damaged Daily Mail's domestic and foreign operations. Google's unlawful tie of its advertising exchange to its publisher ad server excludes numerous United States rivals from the ad-server market. See supra ¶ 229. Absent Google's unlawful tie, Daily Mail could have licensed one of these now-defunct publisher ad servers to serve both its United States and foreign inventory. Instead, Daily Mail is forced to license DFP as its publisher ad server for its inventory worldwide.

233. As a result of Google’s monopolization of the ad-server market in the United States, Daily Mail’s entire ad inventory has been sold at depressed prices. This reduces Daily Mail’s foreign and domestic revenues, which in turn reduces Daily Mail’s investment in content for readers and, ultimately, Daily Mail’s output of advertising impressions.

B. Ad Exchanges

225-234. Google likewise has harmed competition in the market for ad exchanges. Most notably, by rigging the auction rules in DFP, Google has insulated AdX from competition with other exchanges. Google’s conduct is even more egregious on AMP, where it has eliminated rival exchanges entirely by requiring publishers to reject client-side header bidding.

226-235. As Google excludes rivals from competition, it has increased its share of the exchange market. Google’s increasing share gives it access to bid and win data at a scale that it can use to develop and enforce features that benefit AdX over rival exchanges, to the detriment of publishers and their readers. For example, Google has recast its Last Look advantage as Minimum Bid to Win. That, in combination with UPR, allows Google to intermediate an even greater share of publishers’ impressions in AdX at significantly lower prices, which only exacerbates a negative feedback loop to the detriment of rivals and consumers.

227-236. Competing exchanges consequently have exited the market and new entrants are unable to compete. Over a decade ago, Microsoft, Yahoo!, and top Silicon Valley venture funds competed in the exchange market, with the AdECN, AdBrite, and ASDAQ exchanges. All three of these exchanges since have exited the market. Meanwhile, competition from new entrants is weak because Google has obstructed competition among exchanges. Competitors have lowered their revenue shares to half and even a quarter of Google’s, yet Google’s share of the exchange market continues to increase. That is because, *inter alia*, Google

can capitalize on Last Look ~~(new Minimum Bid to Win)~~ and its variations and selectively modify its revenue share when needed to take impressions from rivals, only to charge even higher fees on less competitive impressions. Google thus has power to raise prices without losing (indeed, it is gaining) market share.

228-237. While exchanges are two-sided markets between publishers and ultimately advertisers, neither publishers nor advertisers are a source of competitive discipline for Google. Publishers cannot withhold their inventory from DFP because they need access to AdX, and almost all rivals for publisher ad serving have exited the market. As to advertisers, because Google can trade on inside information to win impressions more cheaply than rivals, DSPs that optimize their campaigns necessarily will increase their ad spending in AdX at the expense of other exchanges. Google's ability to underpay publishers increases the amount of advertiser demand it can control. Like the bar in Anchorage that has a sign saying, "we cheat the other guy and pass the savings on to you," Google's business model is classically monopsonistic — it seeks to intermediate a growing share of impressions at lower underlying values, despite the fact that underinvestment in publishers' inventory leads to fewer impressions (*i.e.*, lower output).

229-238. Daily Mail has suffered substantial economic injury as a direct and proximate result of Google's unlawful conduct. Google's Last Look, AverageDynamic Revenue Share, and related auction mechanisms have resulted in underpayment for Daily Mail's inventory. When Daily Mail tried to counteract Google's advantages with differential price floors, Google disabled that practice with UPR. As a result, Google has doubled its share of Daily Mail's inventory despite paying 70% less for it. The result is less investment in Daily Mail content and ultimately fewer impressions for sale through all ad exchanges — Google or otherwise.

239. Google's conduct was intended to cause, and did cause, a direct, substantial, and reasonably foreseeable effect on the United States market for ad exchanges, which in turn damaged Daily Mail's domestic and foreign operations. Google's anticompetitive auction mechanisms and related conduct exclude numerous United States rivals from the market for ad exchanges. See supra ¶ 236. Absent Google's unlawful monopolization, Daily Mail would have traded substantial volumes of impressions — both foreign and domestic — over these excluded exchanges, with the result of greater revenue. Moreover, Google's myriad auction manipulations significantly reduce competition in the exchange market and drastically reduce Daily Mail's ability to sell foreign and domestic impressions through United States exchanges that remain in business.

240. As a result of Google's monopolization of the ad-exchange market in the United States, Daily Mail's entire inventory has been sold at depressed prices. Google is able to rig its bids and protect a supracompetitive revenue share. By employing those tactics, Google reduces Daily Mail's foreign and domestic revenues, which in turn reduces Daily Mail's investment in content for readers and, ultimately, Daily Mail's output of advertising impressions.

CLAIMS

I. COUNT 1 — MONOPOLIZATION OF THE MARKET FOR PUBLISHER AD SERVERS IN VIOLATION OF THE SHERMAN ACT, 15 U.S.C. § 2

231-241. Daily Mail repeats and incorporates by reference each of the foregoing allegations of this Complaint.

232-242. Google unlawfully acquired and now unlawfully maintains a monopoly in the market for publisher ad serving by, *inter alia*, tying its ad exchange (AdX) to its publisher ad server (DFP). Google has forced publishers to use DFP and erected barriers to entry in the ad

serving market. Most ad-serving rivals have exited the market, and any new entrant simultaneously would have to provide a similarly powerful ad exchange.

~~233-243.~~ Google has enacted an unlawful tying arrangement: (1) AdX and DFP are separate products in separate markets; (2) AdX has market power in the relevant exchange market; (3) Google has coerced publishers to use DFP in order to access AdX, even though they otherwise would not do so in a competitive market; and (4) as a result of the tie, Google has monopolized the market for publisher ad serving. The effect of the tie has been to reduce investment in publishers' content and depress the output of impressions available for sale.

~~234-244.~~ Google's various anticompetitive tactics to undermine client-side header bidding also have stymied investment in and entry from a potential ad-serving competitor.

~~235-245.~~ As a result of Google's unlawful conduct, Daily Mail has suffered, and continues to suffer, monetary harm in an amount to be proved at trial.

II. COUNT 2 — MONOPOLIZATION OF THE MARKET FOR AD EXCHANGES IN VIOLATION OF THE SHERMAN ACT, 15 U.S.C. § 2

~~237-246.~~ Daily Mail repeats and incorporates by reference each of the foregoing allegations of this Complaint.

~~238-247.~~ Google unlawfully acquired and now unlawfully maintains a monopoly in the market for ad exchanges. By exploiting its monopolies in publisher ad serving and general search services, Google has, *inter alia*, (1) restricted publishers from routing inventory to multiple exchanges; (2) forcibly routed publisher inventory to Google's exchange (*e.g.*, Dynamic Allocation, Dynamic Revenue Share, Project Bernanke) even though a fair and transparent auction would yield higher revenues for publishers; (3) traded on inside information (*e.g.*, Last Look, Minimum Bid to Win); (4) disabled publishers' efforts to introduce more competition for their inventory; ((5) siphoned revenue from publishers that did not adequately favor Google

~~products to publishers who did;~~ and (56) abused its search monopoly in an effort to force publishers to use its dominant exchange. ~~With Privacy Sandbox, Google will only further entrench and expand its monopoly control over the market for ad exchanges.~~

~~239-248.~~ With these tactics, Google has acquired monopoly power in the exchange market, depressed prices for publisher inventory below competitive levels, and ultimately reduced the output of impressions available for exchanges to intermediate and advertisers to buy. Of the impressions that remain, Google now controls a greater and growing share.

~~240-249.~~ As a result of Google's unlawful conduct, Daily Mail has suffered, and continues to suffer, monetary harm in an amount to be proved at trial.

III. COUNT 3 — ATTEMPTED MONOPOLIZATION OF THE MARKET FOR AD EXCHANGES IN VIOLATION OF THE SHERMAN ACT, 15 U.S.C. § 2

~~242-250.~~ Daily Mail repeats and incorporates by reference each of the foregoing allegations of this Complaint.

~~243-251.~~ To the extent that Google contends it does not have a monopoly in the market for ad exchanges, Daily Mail asserts in the alternative that Google intentionally and unlawfully has attempted to monopolize the market for ad exchanges.

~~244-252.~~ The anticompetitive conduct set forth herein evinces a specific intent to monopolize and a dangerous probability of monopolizing the market for ad exchanges.

~~245-253.~~ Over several years, Google's share of the exchange market has grown substantially while rivals have not made any appreciable gains.

~~246-254.~~ As a result of Google's unlawful conduct, Daily Mail has suffered, and continues to suffer, monetary harm in an amount to be proved at trial.

IV. COUNT 4 — UNLAWFUL TYING IN VIOLATION OF THE SHERMAN ACT, 15 U.S.C. § 1

255. Daily Mail repeats and incorporates by reference each of the foregoing allegations of this complaint.

256. Google tied its AdX exchange to its DFP ad server, thereby coercing publishers to enter contracts to license DFP.

257. Google's DFP and Google AdX are separate and distinct products in separate product markets.

258. Google AdX has monopoly power or, in the alternative, sufficient market power in the exchange market to coerce publishers to license DFP, thus restraining competition in the market for publisher ad servers.

259. Google's tying arrangement affects a substantial volume of commerce in the ad-server market and has substantially foreclosed competition in that market.

260. Google's tying arrangement has excluded competition in the publisher ad server market and caused Daily Mail substantial harm. For example, Google's tying arrangement has subjected Daily Mail to numerous Google schemes that have depressed prices for Daily Mail's inventory below competitive levels, and ultimately reduced the output of Daily Mail's impressions.

261. As a result of Google's unlawful conduct, Daily Mail has suffered, and continues to suffer, monetary harm in an amount to be proved at trial.

IV.V. COUNT 45 — UNLAWFUL DECEPTIVE ACTS OR PRACTICES IN VIOLATION OF NEW YORK GENERAL BUSINESS LAW § 349

~~248-262.~~ Daily Mail repeats and incorporates by reference each of the foregoing allegations of this complaint.

~~249-263.~~ At all times relevant herein, Google was and is doing business in the State of New York and thus is subject to New York law for the events described in this Complaint. Daily Mail, with its U.S. headquarters in New York, has suffered injury in New York as a result of Google's deceptive and other unlawful practices.

~~250-264.~~ Google knowingly has engaged in deceptive practices by, *inter alia*, assuring publishers that DFP works for their benefit despite knowing that practices like Dynamic Allocation, Enhanced Dynamic Allocation, ~~AverageDynamic~~ Revenue Share, Minimum Bid to Win, and Unified Pricing Rules harm publishers and benefit Google. Google knew and discussed internally how those practices led to depressed prices for publishers' ad inventory. Google also falsely assured publishers that it was not trading on inside information, and that it was running a second-price auction when, in reality, it was running a third-price auction for billions of impressions every month. Publishers have relied on Google's misleading representations to, *inter alia*, decide which products to adopt and how to design their auction strategies.

~~251-265.~~ Google likewise misled federal antitrust enforcers and the U.S. Congress regarding its planned use of publishers' competitive and other sensitive data. The Federal Trade Commission approved Google's acquisition of DoubleClick in reliance on those and other misrepresentations.

~~252-266.~~ Google also purposely omits how critical features of its ad-tech products work (*e.g.*, Project Bernanke, Reserve Price Optimization) and purposely withholds data necessary to police Google's practices (*e.g.*, calculation of temporary CPMs). These omissions

operate to the detriment of publishers, who, as a result of Google's obfuscation, have been unable to take countermeasures to encourage competition.

~~253-267.~~ Google's misrepresentations and omissions are material and have resulted in a significant loss of revenue for Daily Mail. Daily Mail's injury persists today.

~~V.~~ VI. COUNT ~~56~~ — COMMON-LAW FRAUD

~~255-268.~~ Daily Mail repeats and incorporates by reference each of the foregoing allegations of this Complaint.

~~256-269.~~ Google falsely represented to Daily Mail that various features of DFP would serve Daily Mail's interests. Google knew that its representations were false.

~~257-270.~~ Google intended to induce Daily Mail to rely on its misrepresentations.

~~258-271.~~ Daily Mail in fact relied on Google's misrepresentations to enact and keep in place various features of DFP.

~~259-272.~~ As a result of that reliance, Daily Mail has sustained and continues to sustain significant revenue loss.

PRAYER FOR RELIEF

~~260-273.~~ WHEREFORE, Daily Mail requests the Court to enter judgment in its favor against Defendants, awarding all such relief as the Court deems appropriate and just.

~~261-274.~~ Daily Mail requests the following relief:

- a. That the Court enter an order declaring that Defendants' actions, as alleged herein, violate the Sherman Act and New York law;
- b. That the Court enjoin Defendants from continuing to violate the Sherman Act and enter relief to restore competition;

- c. That the Court enjoin Defendants from continuing to violate New York law and enter relief to protect the public from Defendants' deceptive practices;
- d. That the Court enjoin Google taking additional actions (*e.g.*, Privacy Sandbox) that will further harm competition;
- e. That the Court award Daily Mail damages, treble damages, punitive damages, and/or restitution in an amount to be determined at trial;
- f. That the Court award Daily Mail pre- and post-judgment interest;
- g. That the Court award Daily Mail its costs of suit, including reasonable attorneys' fees and expenses; and
- h. That the Court award any and all such other relief as the Court may deem proper.

DEMAND FOR JURY TRIAL

262-275. Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Daily Mail demands a jury trial of all issues so triable.

Dated: ~~April 20~~October 5, 2021

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Respectfully submitted,

/s/ John Thorne

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